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COURSE OF

LECTURES ON THE BLOOD,

AND ON

THE CHANGES WHICH IT UNDERGOES DURING DISEASE,

Delivered at the College of France in 1837-8,

BY

M. MAGENDIE.

LECTURE IX.

Effects of increasing arterial and venous pressure.—Death produced by injection of venous blood.—Differences between the serum and liquor sanguinis.—Proportions of serum and clot in different affections.—Effects of bloodletting in increasing the quantity of serum.—Theories of inflammation.—Examination of blood drawn from patients at the Hôtel Dieu.

GENTLEMEN:—I presumed that by transfusing blood into the veins of an animal I should cause an ascent of the column of mercury in the hæmodynamometer, exactly proportional to the increase in the mass of the blood. The result was not such as I had anticipated; the level of the column, on the contrary, remained almost stationary. This is really difficult to comprehend, and I see no means of accounting for it, except by supposing that, instead of causing a simple mechanical effect, we brought some vital phenomena into play in the vascular system, by our introduction of a liquid differing from that which ordinarily circulates through the frame. The blood of one dog is not precisely similar to that of another; there is, possibly, an individuality in the liquids of every animal, as there is in the external form of its body. The age, the size, the degree of strength, the kind of nourishment it habitually uses, give to each individual special and distinctive characters. The moment the foreign fluid touched the muscular fibre it must have modified its contractile force, and hence, without doubt, arose the alteration in the energy with which the heart propelled the blood into the arterial system. The ulterior effects of transfusion on this dog have been the same as those observed whenever an injection of any species is made into the veins. The functions of the important organs were temporarily disordered. After the operation the animal fell ill, and he is not yet completely recovered. When transfusion was regularly practised on the human subject formidable symptoms were frequently observed to follow its performance. We possess some cases of the kind, related by contemporary authors, but we have no precise details on the nature of the lesions induced, and the kind of organs most frequently affected. Among other morbid phenomena, this dog presents a certain state of disease invariably found in animals whose blood undergoes a change of composition—I mean *purulent ophthalmia*. This morning, when I first saw him, the eyelids were glued together by a viscous humour of a dirty white colour; the conjunctiva was tumid, covered with a layer of false membrane, and appeared engorged from the effusion of puriform fluid into the areolæ of the subjacent cellular tissue. At present you can only see the redness of the ball of the eye, for the pus exhaled between the eyelids was removed before the lecture. I forgot to mention to my assistant that I intended to speak to you on this lesion of secretion, and, in making the animal's toilet, he has unwittingly removed what would have furnished further demonstration of the existence of ophthalmia. I have already had occasion to communicate to you my suspicions regarding the nature of the purulent form of that disease. If observations such as these recur frequently, and if the modifications in the composition of the blood entail, in every case, analogous lesions of the mucous membrane of the eye, we must, of necessity, admit that that *inflammation* is nothing more than the local expression of an alteration of the qualities of the blood.

But the fact is, that it is impossible, physically speaking, that the volume of fluid in circulation can do otherwise than exercise some sort of influence on arterial pressure. The experiments we have made on this point have not, it is true, led to very precise inferences, but I must repeat them before I can feel convinced of the reality of the results to which they apparently lead

Why should we not be able to produce in the living animal, in the present, as in so many other instances, the phenomena developed by disease in the human subject? It would be rash to expect anything of the kind, perhaps, if vital properties were concerned in the matter, but there are none but mechanical phenomena to be produced. The problem is complicated by the action of the chest, which alternately increases and diminishes the progressive force of the liquid. This difficulty I will now endeavour to get rid of by modifying our previous experiments in the following manner:—After having accurately noted the height of the mercury in the instrument, we will extract a given quantity of blood from an artery, and then immediately reinject it into the same vessel, taking care to leave the syringe in its place. By this precaution we shall be sure that the liquid contained in the syringe will not cease for a moment to communicate with the blood in circulation. After this we will repeat the experiment on another kind of vessel: blood extracted from a vein shall be reinjected instantly into its cavity; and we will, in like manner, take care that there shall be no interruption to the contact of the contents of the syringe with those of the blood-vessel to which it is applied. It is scarcely necessary for me to dwell on the advantages that will accrue from these modifications in the experiment. In the first place, we shall be better able to judge of the real influence of the volume of the liquid in circulation, as we shall act on the animal with his own blood; in the next, we shall be enabled to compare the results produced by the removal of a certain quantity of blood, when effected through the arteries or veins. The syringe I am about to employ holds three hundred cube centimeters, that is, three-fifths of a pound. The hæmodynamometer is applied to the femoral artery. Although the movements of respiration exercise a very distinct influence, even in this vessel, on the height of the mercury in the instrument, nevertheless they will not produce, by any means, so marked an effect on it as in the carotid artery. Independently, however, of the contraction and dilatation of the thorax, the femoral artery is exposed to the influence of a twofold action that modifies the course of the liquid during its passage through the ventral aorta. Here is what takes place: during inspiration the diaphragm descends and compresses the blood-vessels by pushing the abdominal viscera before it; during expiration the diaphragm reascends, and the exterior and lateral parietes of the abdomen press, in their turn, on the viscera, and thereby accelerate the course of the arterial blood; both movements of respiration have the effect of augmenting the pressure in the tubes that distribute the blood to the lower extremities. These phenomena are, perhaps, even more interesting to the surgeon than to the physiologist. If a patient utter cries, and struggle against the persons employed in holding him down, while under the knife of the operator, it is evident that such efforts will inevitably increase the amount of arterial pressure. It is the usual habit to direct the patient to give free utterance to his sufferings, instead of attempting to conceal them by silence; and there certainly is no objection to the patient's uttering cries, so long as the cutting instrument is employed on parts at a distance from the larger trunks; but suppose that a patient indulged in immoderate outcry, while a ligature was being applied to the femoral, for an aneurysm of the popliteal artery, there would be considerable risk of the pressure suddenly increasing in the interior of the vessel, and thereby pushing its coats against the edge of the bistoury. In a case like this, instead of recommending the patient to cry out, we should do all we can to induce him to remain quiet, and avoid, as far as possible, contracting his muscles. I need not add that efforts, though made without noise, would be attended with similar ill consequences, for they would increase the progressive force of both arterial and venous currents. There are some subjects endowed with such exquisite sensibility that their muscles undergo a sort of convusive contraction almost every instant during the course of an operation. These are points which must be taken into account, not only in regard of surgical manipulations, but also of our attempts to determine the physical conditions of the vessels. Just in the same manner the circulation will be found far from being in a normal state in an animal suffering from artificial tetanus, produced by the introduction of strychnia into its veins, for the pressure will be inevitably modified. Our present business, however, is to ascertain the influence of the volume of the liquid on the static force of the currents of blood, when the economy is in the physiological state. I turn the cock that separated the blood from the carbonate of soda; the mercury is now in motion; it oscillates between 65—75 mill.; it neither rises nor falls much beyond those two points; its movements present none of those extreme variations which we observed in our former experiments; the difference, in this instance, depends on the great distance of the vessel from the respiratory apparatus. I have applied two ligatures to the carotid; one is intended to prevent hæmorrhage by the upper end; the other, to fix the lower end of the artery to the tube introduced into its cavity for the purpose of transmitting the blood to the body of the syringe. Everything is now arranged. You see that the blood pushes the piston up of itself, and enters the instrument. The scale marks 60—70, 55—65, 55—60, 50—55 mill. 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syringe is half full. I now drive its contents back into the artery. We have 60—65, 60—70, 65—80, 60—70 mill. The mercury, therefore, ascends when we increase, and falls when we diminish the quantity of liquid. Now, that the latter is all reintroduced, the level of the mercury has returned to 65—75, our original starting point. I have now refilled the syringe, by simply allowing the force of progression of the blood to drive the piston back. The column falls to 60—70, 50—55, 40—47, 35—42, 25—35, 20—27 mill. Three hundred cube centimeters of liquid are now extracted, and you see that the pressure is very much diminished. Unfortunately we do not know what quantity of blood remains in the body of the animal. The notions we possess on the total volume of liquid in circulation are too vague to admit of our drawing any exact inference from them. I reinject the blood: the mercury marks 25—35, 40—48, 50—55, 50—57, 65—75 mill. It has again reached its original level. Twice we have repeated the same experiment, and twice the height of the mercurial column increased and diminished in the direct ratio of the volume of the blood; no reasonable doubt can, therefore, be here entertained respecting the nature of the phenomenon. I now tie the lower end of the vessel, and proceed to make the same experiment; by way of comparison, on the venous system. The jugular has been laid bare. We must, in the case of this vessel, take some precautions that would have been useless when we acted on an artery. You will readily understand the reason of this; if I simply introduced a tube into the vein, and aspired its contents by raising the piston, the coats of the vessel would collapse under the influence of atmospheric pressure, and form a sort of valve. I have, therefore, selected a tube for the present experiment sufficiently long to reach into the thorax, as far as the vena cava superior, or even as the right auricle; while introducing it I heard a slight sibilus; my assistant also detects a strange sound in the chest; it is probable that a little air entered into the tube during inspiration, and so reached the right cavities of the heart. This accident will, probably, not interfere materially with the progress of the experiment. The mercury marks, as before, 65—75 mill. I fill the syringe, but with much greater difficulty than from the carotid; I am obliged to raise the piston forcibly in order to get the blood into the body of the instrument, whereas, in the former experiment, the impulse of the heart was sufficient to produce that effect. The level of the column falls to 55—65, 45—50, 30—45, 25—30, 15—20 mill. You observe that the animal appears to suffer very much more than in the former instance; he tosses about, and seems oppressed by some extraordinary sensation. I now reintroduce the blood. I know not to what it is owing, but I certainly feel a resistance in pushing the piston, which I did not encounter when experimenting with arterial blood. The state of the animal grows more and more desperate; I fear, indeed, that he cannot survive many moments. Almost all the fluid has now been reinjected into the circulation, and yet the mercury stands at 15—20, 20—25, 13—17, 10—15, 10—12 mill.

There is scarcely any pressure, and the oscillations are hardly appreciable: they have now ceased completely. The scale marks 10 mill.; but this slight elevation is caused by the weight of the volume of subcarbonate of soda, which is nearly equivalent to ten millimetres of mercury. It is not likely that the sudden death of the animal is to be ascribed solely to the accidental entry of air into the veins; but we will satisfy ourselves on this point by the autopsy. I have opened the thorax; the pericardium is notably distended; the heart appears tolerably heavy, though lighter than if it contained nothing but blood. I now percuss the surface of the organ gently with the finger, and instead of a dull sound, a distinctly sonorous one is produced, which must of necessity depend on the presence of a certain quantity of air in its cavities. I open the right ventricle, and you see that it is filled with a frothy liquid; or, more correctly speaking, that fluid forms a stratum over an enormous clot occupying the central part of its cavity. The superior and inferior venæ cavæ are filled with coagulated blood; they are much distended. The clots may be traced to the first valves of the iliac and subclavian veins. The left cavities of the heart are empty; they contain neither air nor liquid. The animal's death was, therefore, partly owing to the passage of air into the veins, partly to the coagulation of the reinjected blood. The latter was evidently the chief agent in the production of the fatal result. I was, I confess, very far from expecting such a conclusion to our experiment as this; it is opposed to all that is know respecting the relative degrees of coagulability of the blood in the veins and arteries.

You see, Gentlemen, that we scarcely ever make an experiment without establishing some novel fact, or without being obliged to come to a different conclusion from that we had anticipated. Hypotheses are much more complaisant, for they lend themselves servilely to all our wishes; whereas fair and conscientious experiment is pitiless in this respect. If we desire to attain truth in our researches, we must be prepared for every sacrifice, even for that of our self-love. Be that as it will, however, you must be struck, as I am myself, with the result of the experiment just concluded. So long as the animal was in a fitting condition for experimentation the height of the mercury and the

mass of the liquid were directly proportional; but this new result does not contradict the former ones; for, as I have often told you, one fact cannot disprove another. It is only hypotheses that are ever reciprocally destructive. All the inference we can draw in the present instance is, that the phenomena observed varied in two different animals. The difference arose, in all probability, from the dissimilarity of the processes in each case; from the nature of the vessel; the composition of the liquid; and possibly, too, from the vital conditions of one and the other animal. The dog just employed had for some time been on a diet of gelatine; and, as he was weak and reduced in flesh, and the quantity of blood in his frame less than in the normal state, it was to be expected that he would not have sufficient energy to react against the least debilitating influence. Every modification of the blood would, of necessity, affect the contractile force of the heart. Nevertheless, I am far from affirming that the manifest variations of arterial pressure are explicable in this manner; I am much more inclined to believe that the variance in our results is mainly to be ascribed to the influence of respiration, which is powerful in the carotid, and extremely feeble in the femoral artery. Under all circumstances, it is fortunate that we did not perform the experiment in the first instance in the manner we have just done. Had we at first seen the mercury fall and rise according as we took away or added fluid, we should have been quite contented with the result. As our theory would have been then substantiated, we should have conceived no doubt of its correctness. You are now thoroughly convinced that the question is not so simple a one as we had in the outset presumed.

One of the most curious phenomena we have just observed is, that the blood extracted from the arterial system remained unchanged in the body of the syringe during several minutes. How shall we account for its not having coagulated from the contact of the metallic syringe? There was a circumstance which, by its physical influence, probably aided the blood in retaining its fluidity. In order to give the experiment a greater degree of precision, I took the precaution of allowing the liquid contained in the instrument to communicate freely with that in the artery, so that the impulsion of the heart, the movements of respiration, &c. acted with their full force on the contents of the syringe. The latter were, therefore, kept in constant agitation by all the causes of movement that act on the circulation, and were placed in a very different condition from what they would have been had they been exposed to the open air, and kept motionless in a vase. The proof that the influence of the contraction of the left ventricle was as distinctly felt in the instrument as in the artery itself, is that, as you plainly saw, the piston gradually rose of its own accord, as it were, until the body of the syringe was completely filled. It is very possible that constant agitation prevented the liquid from becoming solid. But there is another point which must not be lost sight of: the animal had, for several weeks, been submitted to a particular kind of diet. He was fed, during that period, with gelatine; and it is, therefore, possible that the composition of his blood was modified, and its coagulability consequently lessened. These, however, are mere surmises, and I by no means desire to give them the weight of affirmations. The *why* of phenomena is, in physiology, often beyond our reach; meanwhile, the really important point is to establish facts. To these we must more especially devote ourselves in the present instance.

As the plasticity of arterial is greater than that of venous blood, we should infer that if the two liquids were placed in the same physical conditions the latter would not coagulate so long as the former remained liquid. There is certainly no fair objection to be urged against the inference; it is conformable with the notions generally admitted on this subject, notions shared by myself. Nevertheless, you saw that the blood extracted from the artery was reinjected without causing any disorder of the economy, whereas an equal quantity of venous blood reintroduced into the circulation, immediately caused fatal disturbance. Had I attempted, *à priori*, to determine the issue of these experiments, I should have said, as venous is less coagulable than arterial blood, it will retain the fluid form the longer of the two. Consequently, when I saw the animal perish, it did not enter into my head to attribute its death to the reinjection of venous blood. I had, it is true, encountered some resistance in pushing the piston, but it happened in my case just as it happens in that of every one whose mind is pre-occupied; I treated certain important circumstances as though they were of insignificance, because my attention was not directed to them. What principally struck me was a strange sound in the chest, which I fancied arose from the introduction of air into the right side of the heart. The autopsy showed that I was correct in my supposition; but it disclosed another cause of death in the voluminous resisting coagulum that distended the left ventricle. The latter had nothing to contract on but a compact mass. The blood must have remained partially liquid in the syringe (inasmuch as I succeeded in reinjecting it), and become solid the instant it reached its natural tubes. This is really a very curious circumstance; must we, in explanation, admit, hypothetically, the action of some idiosyncrasy in the animal; or should we infer that a diet of gelatine renders the arterial less coagulable than the

venous blood? These are questions which a single fact may allow us to propose, but assuredly not to answer. We must be content to await further observation.

Among the topics of which I treated in my last lecture, you will remember I adverted to the relative proportion of the serum and clot. I also drew a comparison between the liquor sanguinis and the serosity, and came to the conclusion that the former belongs exclusively, so to speak, to the living blood, while the latter is only discoverable in blood deprived of life. The one is beyond the reach of almost all our methods of analysis; the other has long supplied a material for examination for the organic chemist. I also said a word or two on the *clot*, *coagulum*, *insula*, *hepar*, as it has been severally termed; of its composition; the different states in which it exists, and the mode of organisation that characterises it.

I invited your attention, more especially, to this proposition,—that the blood must possess certain other qualities, in addition to liquidity, to enable it to circulate through, and support the life of our organs. Nay, more, I am enabled, by numerous and incontestable facts, to affirm, that the power of solidification possessed by the blood, when removed from its vessels, is nearly the same as that proper to it while still circulating in them.

These positions, which are the results of direct experiment, may appear of trifling importance to superficial minds; they are, notwithstanding, highly interesting. They are directly applicable, in a multitude of ways, to the practice of surgical operations and of medicine; and I hesitate not to declare, Gentlemen, no matter how sorely I shall wound our vanity thereby, that so great is our ignorance of the real nature of the physiological disorders called diseases, that it would, perhaps, be better to do nothing, and resign the complaint we are called on to treat, to the resources of nature, than to act, as we are too frequently compelled to do, without knowing the why or wherefore of our conduct, and at the obvious risk of hastening the end of the patient. This notion savours a little of hippocratism. But, I would ask, did not the physician of Cos possess in an eminent degree, the instinct, I may say the genius of his profession; and has the art of physic really made solid progress in all respects since the day of that gifted man?

I was anxious to ascertain if the constituents of the serum of the blood in our vases were the same as those of the *liquor sanguinis* that circulates in the body during life. We soon discovered that an old and serious error existed on this point. Berzelius was the first to entertain doubts of the identity of the serum and of the liquor of the blood, and to prove experimentally that there was an important distinction to be established between them. The *liquor sanguinis* is, as you are aware, composed of serosity and fibrine. The latter element appears to be that which gives the blood the property of nourishing and renewing our organs: it is in consequence of its possessing this property that certain physiologists, ambitious of rendering the truths of physiology popularly intelligible, called that fluid *running flesh*. Whatever be the correctness of this expression, it is certain that the part of the blood which forms into a mass out of the vessels, exists, while circulating, in the form of a liquid; and is held in suspension, or perhaps in solution, in the serum. After death this portion of the blood endowed with the property of solidification separates from the serosity, carrying the globules with it. There is, therefore, the clearest proof that the blood extracted from its natural tubes differs essentially from that in circulation; for, in the former case, the globules are contained in the meshes formed by the coagulable matter. We may now, therefore, form some conception of the mode in which the solidification is effected. It is neither by a chemical action, nor by a process analogous to that of crystallisation; there is something more than this in the formation of the net-work of the clot; there is a something in it which tends to live, if it be not really *life* itself. Again, I stated that the relative quantities of the serum and clot are subject to great variation. The colouring matter and the fibrine, which are brought together in the clot, have not hitherto been sufficiently studied separately; this we shall see is, notwithstanding, necessary to be done. Be that as it will, however, physiologists and practitioners have long since laid it down as a rule, that a fourth, or, in some instances, a third, of the whole consists of serosity. So long as the clot forms about the fourth of the entire mass, there is a species of equilibrium of composition, which coincides with the state of health. Nevertheless, very considerable modifications may, it is believed, exist in this respect in different individuals, in the two sexes, at different ages, under difference of regimen, &c.; these positions, however, call for new experimental verification by the improved modes of investigation of the present day. It would appear, more especially, that the proportion of serosity is greater in females than in males. This excess of serum was very remarkable in the young hysterical patient of whom I spoke to you in my last lecture: it is no less so in the specimen you see in this vase, furnished by a girl, aged twenty, affected with leucorrhœa. On the other hand, the relative quantity of coagulum is much greater in some individuals. In illustration of this here is some of the blood of another of my patients at the Hôtel Dieu, a woman, aged fifty-two. She has cancer of the uterus,

and has also suffered from slight attacks of hæmoptysis. I had a trial-bleeding practised on this woman; and you will at once perceive how widely this blood differs from the other specimens that we have passed in review. It scarcely contains a tenth part of serosity. I would not affirm that there is any relation between her complaints and the state of her blood, but, I confess, I am inclined to take that view of her case. Apropos of this uncommon quantity of coagulum, I must guard you against trusting implicitly, in all instances, to the appearance of things in the vase, and supposing that there is no more serum than can be seen. I have verified the correctness of a notion of which I threw out a hint at our last meeting: under certain circumstances the fibrine, while in the act of solidifying, retains a considerable share of serosity within its areolæ. In such cases it is necessary to cut the mass into slices, which causes the serosity to ooze out on all sides.

I stated to you that repeated bloodletting caused a variation in the proportions of serum and clot; but I have ascertained a still more important fact. It is this: in every case of serious disease I have met with since commencing the researches with which we are at present engaged, those two elements have invariably presented some anomaly in respect of their relative volume. Here is another example of this,—there is a woman at present in my wards furnishing a very curious subject for inquiry in a physiological and pathological point of view. Her complaint is a cancer of the left parotid gland, which has encroached on a part of the temporal bone. The compression caused by the tumour has brought on an affection of the fifth, combined with a lesion of the seventh pair. There is complete loss of sensibility in that lateral half of the face, destruction of the power of vision in the corresponding eye, ulceration of the cornea, insensibility of the organ not only to light, but under the contact of foreign bodies, deviation of the mouth to the right, &c. The patient is in a state of advanced marasmus. I have no hope of saving her life; her death, indeed, appears imminent. I keep her in my wards, however, that she may be spared the torture of a useless operation, which she would possibly be induced to undergo if she left me. She shall, at least, die quietly. Her blood, some of which you see here, presented, when first drawn, only 10 parts of serum to 40 of clot; there are now, however, at least 12 parts of serosity. It is evident that the additional two parts were retained by the clot, and that they transuded subsequently in consequence of the contraction undergone by the coagulated mass.

This other specimen of blood comes from a girl twenty years of age. She usually menstruates ill, is of lymphatic temperament, and subject to leucorrhœa. You observe that the serosity is very abundant. The dresser who bled her informed me that twelve hours after the operation the hand, but not the arm, swelled considerably, though the bandage was not tightly applied, and the patient had remained perfectly quiet. This sort of spontaneous infiltration, which, by the way, lasted only twenty-four hours, is not to be wondered at in the least, in a person whose blood is of the kind you see. You understand perfectly the mechanism by which it is produced. Here is another fact bearing on the subject under consideration. A medical practitioner gave me some of the blood, drawn on three successive occasions, from a patient affected with pneumonia. Each of the bleedings was abundant. The two first were practised on the day of the patient's admission; the last on the fourth day of his sojourn at the hospital.

In the first there are 11 grammes of serosity and 50 of clot, which gives about 22 parts of serosity in 100. In the second there are 24 grammes of serum to the same proportion of coagulum; the relative quantity of serosity was, therefore, more than doubled. Finally, the third gives 34 of serum to 35 of clot; that is, 50 per cent. of the former. These augmentations of the serum, induced by bleeding, ought surely to have struck practitioners. I have full room for astonishment at their having excited so little attention, for it is a regular practice to have the blood of patients set aside for examination. At the end of twenty-four hours usually this examination is made. The clot is felt, turned up and down, and fingered in every direction; and all with a view to the discovery of an appearance of *buff*. If this *buff* cannot be found, the conclusion is, that the disease is not inflammatory, a conclusion well worthy of the process by which it is obtained. But if you intimate to the physician that the serum has, at the second bleeding, acquired double its previous proportional quantity, that it has lost its normal transparence, and that the clot is soft and diffluent, he will answer that such things are not of the most trifling consequence. No, the really important point is to detect the inflammatory element, were it only the veriest morsel of it, and then to annihilate it by the antiphlogistic treatment. Such is the manner in which medicine is generally practised. When we consider, Gentlemen, that in spite of the plainest and most forcible facts, the majority of medical men persist in blindly following a regular routine that brings discredit on the art, we are surely justified in applying to them these words, which, in more than one view, recapitulate the history of men,—*they have eyes, that they may not see.*

A superabundance of serum in the blood is, in my mind, a positive contraindication

to bloodletting; and I conceive that this fact will sooner or later be admitted as a fundamental position in the treatment of disease. It is fully established, that inopportune bleeding may singularly aggravate the condition of a patient, and even render his restoration to health a positive impossibility. I will here, again, have recourse to the experimental method, in the hope of discovering with what proportions of serum and clot the equilibrium, essential to the vitality, ceases to exist. I do not despair of success, although I have encountered some obstacles in the investigation, with which you shall be made acquainted. Reasoning from analogy I supposed, that as bleeding alone increased the serosity, the increase would be rendered still greater by replacing the blood removed with water. I consequently made some experiments of this sort, and with the following singular result. Here is an animal who has been bled three times within the last eight days, to the extent of four ounces on each occasion. The moment the operation was finished, four ounces of distilled water, at the normal temperature of the blood, 31° Reaum., were injected into the veins. The animal has meanwhile had an abundant supply of nutritive food. The blood in this glass vessel belongs to him. You must join with me in feeling some astonishment at the nature of its contents. You, no doubt, expected to find a very large proportion of serum in them, whereas a few drops only are to be seen. Here is one of those contradictions to our theories, for which we should be prepared, when engaging in experimental inquiry.

We must not suffer such a mischance to discourage us; for my own part, I shall not so easily be induced to abandon my design. But let this example, of which you will meet many a repetition, impress on your minds one important truth; I mean that there are some experiments which appear to furnish their conclusions, *à priori*, in so direct and logical a manner, that to perform them looks like undertaking a superfluous task; yet, when these same experiments are tried, their results are found to be at complete variance with our anticipations. The reason of this is simple; we are ignorant, without suspecting that we are so. Here, for example, I fancied I should increase the proportion of the serous elements of the blood, by adding fluid to it directly; quite a contrary effect has, in reality, been produced. However, I will slit open the clot to see if there be any serum interposed between its lamellæ; none is to be found there. It would appear, on first view, that this fact contradicts our former experiments; but this it does not by any means do. Remember—over again let me warn you of this—that one well-observed fact cannot overturn another of similar character; if such appear to be the case, rest assured that our intelligence is not sufficiently enlightened to comprehend their real relation. Under circumstances like these we should confine ourselves to registering the seemingly contradictory facts, and waiting patiently until further observation enabled us to get rid of the difficulty. This is what we will now do; we will note down, that repeated venesection increased the quantity of serum in a patient, while the same agency appears to have had the contrary effect on this dog. However, it is right to mention, that the circumstances are not precisely the same in both cases; in the instance of the animal there is, in the first place, a certain amount of forces in the organism, which tend to keep the blood within certain limits of composition. There is also a direct and most efficient cause why the introduction of water into the veins should not contribute to increase the quantity of serum in the blood; it is that, as my assistant this moment informs me, the animal has an abundant miction after each injection.

You are aware, Gentlemen, with what rapidity fluids, ingested into the stomach, are carried by the veins of that organ into the general circulation, and thence to the kidneys, which they stimulate to secretion. Thus, when we drink beer, Seltzer water, or Champagne, we are almost immediately seized with a desire to void our urine. There can be no doubt that, if we could retain those liquids longer in the circulation, a bleeding practised before this expulsion, would discover evidence of their presence in the blood; but as they give an extraordinary degree of activity to the urinary secretion, they are quickly removed from the body. To continue our parallel: when a patient is bled he is put on very low diet; the animal on which our experiment was made has, on the contrary, been given abundance of nutritious food, and, therefore, provided with the means of repairing the losses of his blood. A patient, treated on the antiphlogistic plan, is placed in a diametrically opposite condition; his blood is taken from him, and he is, at the same time, deprived of all nourishment; he has nothing wherewith to make up for the lost blood but ptisans, of which, to speak a truth, he is allowed no niggard supply. But as the restoration of the mass of the blood is indispensable, the lost elements must be got, as best they can, from these same ptisans; hence, without doubt, comes the increase of serosity. Still, it would be an interesting point, to learn the means and mechanism by which an animal is, in a case like the present, enabled to maintain the component parts of his blood in their normal proportions.

In spite of anything that may seem to indicate the contrary, it is perfectly true that

any signal disproportion between the serum and clot, renders the blood unfit for the performance of its functions. A very curious case, supporting this doctrine, has been recently observed in my wards at the Hôtel Dieu. A female was, some time past, admitted under my care, with most violent uterine hæmorrhage, which had existed for two days at the time of her admission. This was the consequence of an artificial miscarriage, induced by the use of those powerful drugs which certain women, whose moral turpitude is even greater than that of the unfortunate beings employing them, make a trade of vending. As I have since learned, it was not her first attempt in this way; she had already succeeded twice or thrice in producing abortion. Such practices would be less frequently had recourse to, if their terrible consequences were better known. I may here say that death is often the most desirable issue in such cases, for it puts an end to most atrocious suffering. In other instances incurable mental alienation, or abdominal neuralgia, that no remedy can soothe, follow. Various cases of this kind have lately come before me, and I distinctly ascertained that serious disorders of the functions of the brain were the occasional consequences of these criminal practices.

In the example to which I more particularly advert, there was, as I said, hæmorrhage from the uterus. The general pallor of the subject was very remarkable, as well as the state of prostration and stupor under which she laboured. Her blood trickled away in diffluent clots of a peculiar odour; it was this, indeed, that turned my thoughts to the probability of a premature delivery having taken place; this, however, the patient employed all her remaining strength in pertinaciously denying. I had two ounces of blood taken from her; not on homœopathic principles, but to enable me to prognosticate the probable issue of the affection. Here is the blood; the disproportion of its elements is frightful; there is only 15 per cent. of coagulum. I affirm, that with such a quantity of serum in the blood, the capillary circulation cannot be regularly accomplished. I have before me a new proof of the fact, in the lung of an an animal, submitted, as I announced to you, to successive bleedings. At the eighth the blood was so profoundly altered in its qualities, that it was impossible to continue the experiment for the following reason:—Blood can only be removed from the body through an artery or a vein. In the case of the arteries a clot forms, after the operation is finished, which mechanically blocks up the cavity of the vessel; but if the blood have lost the property of clotting, of course no coagulum is produced. In the case of the veins the edges of the wound become glued together, and unite in such manner as to leave the cavity of the vessel free; but in the condition of the blood referred to no adhesion takes place. You may tie the artery, and heap ligature on ligature, but in vain; they cut through the vascular tunics, and the hæmorrhage reappears in a more threatening manner than before. As the very simple cause of these deplorable occurrences was not formerly understood, they were quasi-explained by a term without the least real meaning: they were ascribed to the *hæmorrhagic diathesis*. Instances of their occurrence in the human subject are not rare; and only last year an example of the kind happened in the wards of one of our most celebrated surgeons.

Suppose that a woman has hæmorrhage after parturition: if her blood be non-coagulable, you may vainly employ compression of the abdominal aorta; as soon as you cease to compress the hæmorrhage reappears, and carries off the patient. You are aware what difficulty is encountered in the attempt to stop the flow of blood in some individuals, after the application of leeches, or the trifling operation of cupping; yet, in both cases, there are only small vessels in question. What difficulty may we not then anticipate, when tubes of considerable diameter, such as the ulnar, the radial, the brachial, or others of still larger calibre, are the subject of hæmorrhage in persons of a similar constitution?

But to return to our animal,—he died of hæmorrhage; and, according to my theory, we should find an affection of the lung, engorgement, œdema, or, possibly, even true pneumonia; and, as I had supposed, would be the case, we discover, on cutting into the organ, that serosity oozes from its substance. This is nothing more than the serum of the blood, extravasated into the vascular areolæ, because the latter had lost its just degree of coagulability. What can have deprived it of that property, unless it be the bleedings the animal underwent? Hence that operation was the real cause of the animal's death, as it was so frequently repeated as to render the blood almost or completely non-coagulable. But there is something very remarkable, in a pathological point of view, in the case of the woman of whom I have just been speaking, and whose blood gave only 15 per cent. of coagulum. At the end of forty-eight hours, during which every drug supposed to possess antihæmorrhagic virtues was employed, among the rest secale cornutum, peritonitis supervened. You know that by this term is understood a disordered state of the secretion and exhalation of the serous membrane of the abdominal cavity. You find, after death, a viscous liquid, in the midst of which flocculi of albumen are seen to float, &c.

Now, can you fancy that the attack of peritonitis was the result of excitation, or

irritation, suffered by the patient? She was, on the contrary, perfectly anemic, and in the most marked state of weakness; and peritonitis is so acute a disease, that it carried her off in less than four-and-twenty hours. Is no relation to be recognised between the liquidity and slight coagulability of the blood, and the affection of the peritoneum? But this is not all; if we turn from the abdomen to the lung, there, too, we find a state of engorgement, in other words, serosity effused; in short, lesions perfectly analogous to those detected in the lung of the animal submitted to repeated bloodletting. I may, therefore, legitimately conjecture, that these diseases are to be referred to particular conditions of the blood. In peritonitis I find an effusion of serosity, and I know that there is serosity in the blood also. I also discover a substance solidified in the form of very thin lamellæ; may I not suppose that this is the fibrine of the blood escaped from its vessels, and become organised? This idea has, indeed, been already broached, and nothing has hitherto shown it to be fallacious. The relation that may possibly subsist between the composition of the blood and the development of peritonitis, especially in cases where it follows hæmorrhage from abortion, and forms a most serious complication of puerperal fever, seems to me a point of the deepest importance, and worthy of our most anxious attention.

UNIVERSITY COLLEGE HOSPITAL

ABSTRACT OF LECTURES ON THE EXCISION OF JOINTS;

BY MR. LISTON.

Delivered October, 1838.

Lecture II.

Mr. Liston said he had neglected, in his former lecture, to state, that one of the most important signs of disease of a joint, large or small, was the great extent of unnatural motion which existed in it. This was readily accounted for by the state of the lateral and other ligaments, which were softened, relaxed, and disorganised. The wasted condition of the muscles of a disused limb might also be noticed as a cause of this unnatural mobility. It was important, besides, to observe the sponginess and lightness of the neighbouring bones, which, indeed, were so thin in their shells and so soft, atrophied as the phrase was, that they could be readily cut with a strong knife. They were, besides, often diminished in bulk and length by interstitial absorption. This occurred either with or without deposits of tubercular matter in the cancelli. There was little chance of a natural cure when the joint was thus diseased. Sometimes, though rarely, a cure was affected by the unsound surface being thrown off and anchylosis taking place. In many cases it was absolutely necessary to amputate the limb, while in other instances, as they had lately seen, it was sufficient to remove the diseased portion only. This operation could be more frequently resorted to with advantage in the upper than the lower extremities. Unless the affected limb could be preserved of nearly equal length and strength as the other, progression must be performed awkwardly and inefficiently. Whereas under many circumstances, if the motions of the wrist and fingers only of one side could be preserved, though the shoulder and elbow-joints were immoveably fixed, if in a favourable position, the organ, being independent of the other, might be applied to many useful purposes. The difference in length and strength in the two limbs was of much less consequence.

DISEASES OF PARTICULAR ARTICULATIONS.

Diseases of the articulations of the fingers

Might be the result of injury to the joint, or follow disease of the soft or hard parts; or it might be the effect of a sprain, or a trifling bruise and laceration over the convexity of a joint. It more frequently, however, followed an attack of inflammation and abscess of the soft parts, as in whitlow. Whitlow, or paronychia, might come on spontaneously, or follow injuries, as a bruise, punctured wound, or bite, &c. He had seen, very lately, an instance in which extensive disease of two of the articulations of the finger came on as a consequence of a bite from a man. A fellow had got troublesome in his cups, and set to tearing the waiter's shoulder with his teeth; a person interfered to eject the troublesome customer, and was attacked in a similar manner. The landlord tried to "choke off" the original assailant, and had, in return, the forefinger of his right hand well chewed. The part became violently inflamed; abscesses formed: these were opened. The phalanges of the joints, however, became affected, were loosened, and grated distinctly: amputation was hinted at. The patient was advised to apply to some old quack or other, in petticoats, who promised a perfect recovery. The greater part of the middle phalanx, with the flexor tendons, however, came out and caused so much alarm that amputation was at length submitted to. Mr. Liston had seen many such cases, both in public and private practice. Whitlow was always attended with much pain from the unyielding nature of the affected tissues, and effusion, which generally relieved inflammatory action existing in other situations, only produced an aggra-

vation of the symptoms and the danger in this. If the bone in cases of whitlow become first affected, the disease soon runs its course, and in five or six days, perhaps, you might find extensive necrosis. Disease of this kind could not go on long without implicating the joint. Neglected diseases of the fingers often led to extensive abscess of the hand and wrist. These bad consequences of inflammation, abscess, death of the tendon and bone, disease of joints and implication of neighbouring parts, were only to be averted by early and active antiphlogistic means, by which was not meant saline medicine and cold lotions, but free leeching, fomentations, and, if need be, early and free incisions. The dreadful suffering and fever would then be relieved, and the tissues preserved in, or restored to, their normal condition. The smaller joints were subject to the same changes as occurred in the larger ones; the synovial membranes become thickened and vascular; the cartilage was absorbed, as seen on the recent and injected specimens; the bone became affected, the joint swelled, and the ends of the bones grated sensibly upon each other. Under these circumstances it was very rarely possible to produce a natural cure, and when this was affected the anchylosed joint was rather in the way than otherwise. In what position, to render the organ serviceable, could the joints be put and fixed permanently, bent or straight? In neither could it be of any use, but the reverse. Amputation, under all the circumstances, was very often the most advisable proceeding. When the finger was diseased at the metacarpal articulation, then the member should be removed with a portion of the metacarpal bone. When the phalanges and tendons were irretrievably implicated in disease, then the removal was effected advantageously at the metacarpo-phalangeal joint. In disease of the middle and proximal bones the removal might be by disarticulation, or by division of the bones in their middle, according to circumstances. These operations he would demonstrate shortly. In cases where the thumb was diseased, a natural cure was much more desirable; a stiff thumb was better than none, and would always act as a resisting point to the fingers. A cure was effected in the case from which a sketch exhibited had been taken, a very severe and aggravated one, as well as in many others, by putting the member up in splints for a considerable period. In cases where the last phalanx of the thumb or finger was affected, the portion of the diseased bone might often be removed, and a cure effected without deformity; but this could not occur when any other of the bones or articulations were involved. Amputation was then the only remedy. The pupils must have seen the great anxiety evinced in a variety of cases to save as much as possible of this useful organ when implicated by disease, or suffering from the effects of injury, and must be convinced that the mutilation was inevitable when recommended and resorted to. It had been proposed to take out the whole or portions of the metacarpal bones when involved in disease, without removing the thumb or finger, which they had supported. The attempt had been made, and he had witnessed it in one case. The remnant of the thumb was powerless and always in the way. Much better that it had at once been amputated.

DISEASE OF THE WRIST-JOINT.

Here the disease existed between the rows of the metacarpal bones, or in the articulation between them and the bones of the forearm. In a case operated on the other day, there was ulceration of the cartilage, betwixt the radius and ulna, and the disease had spread also to the articulating surfaces of the scaphoid and lunar bones with the radius; one of these bones was, in point of fact, in a state of necrosis, and nearly detached. When disease had once seized on the wrist, great mischief was likely to ensue; so many articulating surfaces, membranes, and ligaments came together in this neighbourhood. They had now opportunities of seeing many cases of this disease in its various stages. The signs of disease in this were similar to those observed in other articulations, swelling, unnatural looseness of the joint, and, in some instances, discharge from sinuses. The introduction of a probe into the diseased articulation would at once, in most cases, afford a sensible sign, while in others, from the winding course the sinuses took, it was impossible to introduce the instrument with a satisfactory result. In the earlier stages of disease, by perfectly steadying the joint, by means of a splint, and the use of counter-irritants, particularly repeated blisters, raised by the nitrate of silver, a cure might be brought about. In some instances the opening might be enlarged, and the bone, when only one was affected, extracted. He had met with some cases of this kind, in one of which the os magnum was removed, and the cure was complete and permanent. Generally, however, as other bones were implicated, this proceeding could not be adopted, and in aggravated cases, with profuse discharge and hectic, amputation was called for. Resection of this joint could not easily be performed; there would be great risk of wounding important parts, and the disease would be apt to recur. Even if it did not, the hand could not be serviceable. In the case of this disease presented the other day, amputation offered the only chance of success, the patient being much exhausted by the violence and long continuance of the disease.

DISEASE OF THE ELBOW-JOINT

Might come on spontaneously, or, in some constitutions, follow slight injury to the part, or a more severe one in others. In some rare cases it had resulted from compound fracture of the olecranon process. Here was a specimen of disease from this cause. In this case the patient slipped, as she was getting out of bed, or fell out of it, and the elbow struck against the chamber-utensil, which broke, producing a wound, extending into the joint. The articulation was kept quiet, and every means for the prevention and reduction of inflammation employed, but one abscess formed after another, and the disease spread to such an extent, that it became necessary to remove the limb; nothing less than this would have been successful, as the humerus, as they would see, had become necrosed. Very generally the disease was attributed to sprain, or it might follow upon rheumatic inflammation, thickening of the synovial capsule, and consecutive ulceration of cartilage and bone, supervening upon affections of the fibrous investments of the joint, as, in fact, happened in the patient whose elbow-joint was cut out the other day. When the elbow-joint was diseased the same symptoms and signs were observable as when other articulations were affected. At first, as might be seen in several cases under treatment (one of these patients had almost lost one of his lower extremities, on account of extensive necrosis of the tibia, with diseased epiphysis and knee-joint), the disease might be checked by appropriate treatment, and often without much impairment of the functions of the joint. In many cases, however, the disease of the elbow was in such an advanced state, when presented to the surgeon, particularly in hospital practice, that it was necessary at once to remove the limb.

In the case of a little girl, lately in the hospital, who had for a long time laboured under disease of this joint, he had at one time proposed to remove the ends of the bones. Her admission into the hospital was retarded by an attack of small-pox. When she did come under his care the mischief was so extensive, and her general health so much impaired, that he considered amputation, under all the circumstances, as the most desirable and only safe proceeding. Had he attempted resection here, he might, after all, have been obliged to remove the limb under most unfavourable circumstances, and with an almost perfect certainty of losing his patient; this Mr. Syme did, in a case which he (Mr. L.) had dissuaded the parents from having excision performed; this was, however, done, amputation followed, and death soon closed the proceedings. In many instances, however, where the health was good, and the disease was confined to the joints, Mr. Park's operation could be performed with benefit. This operation had been now resorted to in a vast number of cases; he (Mr. L.) had performed it seven times. The operation proposed by Park, as already remarked, was performed several times by Moreau, father and son; it fell into disuse until revived by Mr. Crampton, of Dublin, in 1823. It has since been frequently employed by Roux and Syme; once by Mr. Spence and Dr. Simpson, of Edinburgh. Strange to say, it had been performed by any other than himself, once only in London, so far as he could learn, and that by Mr. Key; the case was detailed in "Guy's Hospital Reports," and had given occasion for a very excellent paper on the subject by Mr. Blackburn. The operation had already been twice resorted to in that (University College) hospital. The limb was not always so strong as before, but, in some instances, a good serviceable joint was formed from ligamentous anchylosis having taken place. In young subjects, however, in addition to ligamentous anchylosis, there was often an osseous deposit at the extremities of the bones, and an attempt, in some cases, to supply the want of the heads of the bones; these became covered by a sort of capsular ligament, and a pretty good joint was formed. This was a different process from that which was observed after division of the shaft of a bone if the cut end is well protected. Mr. Crampton, in an excellent paper on this subject, in the "Dublin Hospital Reports," had remarked that the "injury is repaired in one case by parts whose determinate function it is to form and repair only the shaft; if in the extremity by parts, whose determinate function it is to form and repair only the extremity." The operation of resection of the elbow was neither difficult nor dangerous, and if undertaken, under proper and favourable circumstances, should almost always be successful. The patients on whom he had operated had all recovered, with tolerably serviceable limbs, with the exception, he believed, of one left by him in the Edinburgh hospital, when he came to take charge of the surgical department of the North London; that case, he had been informed, did not go on favourably, and he was not certain that the limb had not been ultimately removed. This said nothing against the operation; the patient, a young woman, was in a most favourable state for its performance, and was doing well, when he left many weeks after; the charge devolved upon a person, now no more, who was certainly a *professor* of surgery, but one who had been preferred, and put over his (Mr. L.'s) head, more on account of his adherence to, and proficiency in, politics, than in his profession. How the treatment had been subsequently conducted he could not tell; probably an attempt was made, by passive motion, to form a new joint, a ha-

zardous and unsurgical proceeding in such cases, after the growth is completed. The appointment alluded to, and one made on somewhat similar grounds, determined his (Mr. L.'s) removal to London; at all events rendered him less unwilling to hearken to offers made him to join that school.

Dr. Jeffrey, of Glasgow, who was rather a theoretical than a practical surgeon, had recommended that an incision should be made on each side of the articulation, in order to divide the lateral ligaments, and to avoid injuring, or disturbing the parts on the posterior aspect of the joint too much, and he further advised, that a toy-like instrument, the chain-saw, should be employed instead of the common amputating one. In the operation he (Mr. L.) had performed the other day, and in every other one, the only instruments he had used were a bistoury, cutting forceps, and a common amputating saw. The joint was cut down upon, and the remains of the ligaments divided; the elbow was then brought to such an angle as to permit the heads of the bones to be readily thrust out; the parts around them were detached, the ends sawn off, and the bones replaced in a proper position. (See following case.)

CASE OF DISEASE OF THE ELBOW-JOINT IN WHICH EXCISION WAS SUCCESSFULLY PERFORMED.

J. B., ætat. 31, admitted October 12, 1838, a tall, spare man, of temperate habits, formerly a private in the Blues. About eight years ago he had an attack of rheumatism, which principally affected his elbows, and ever since, upon any change taking place in the weather, or when exposed to cold, he has been sensible of a pain in the right one. Two years and a half ago the pain increased greatly with some swelling, heat, and redness of the part. He went into the barrack hospital at Windsor, where it was blistered repeatedly, but without affording him any relief, and in a short time matter was formed about the joint, to evacuate which one incision was made in front, and another on the back part of the arm, after which poultices were applied. His health remained good. At the end of 18 months he left the hospital with several fistulous openings discharging freely about the joint. There is now evidently considerable disease in the bones entering into the formation of the joint, and Mr. Liston proposes to perform resection.

Oct. 15. He was to-day taken into the operating theatre, and placed upon a chair. Mr. Liston seated himself somewhat behind the patient, and commenced the operation by carrying an incision of about four inches in length longitudinally, over the posterior aspect of the joint, down to the bone. From this a transverse one was carried at right angles. The ulnar nerve was then drawn over the internal condyle, the ligaments divided, and the heads of the radius and ulna, with the articular surfaces and condyles of the humerus, which were much thickened, removed, partly with the common amputating saw, and partly with the cutting pliers; the edges of the longitudinal incision were brought together by two points of suture, and lint dipped in cold water, put over the wound. No arteries required ligatures.

Vespere. Two more points of suture were applied, and the extremities of the longitudinal incision strapped with isinglass plaster. Water-dressing applied to the rest of the wound. Ordered an anodyne.

16. Doing very well; pulse 88; tongue clean.

17. Same as yesterday; wound looking well; bowels open.

18. Sutures removed, also the plasters in the evening, and water-dressing applied to the whole wound.

22. Improving rapidly; longitudinal incision united. Water-dressing continued; nourishing diet.

25. Doing well; wound contracting; general health good.

28. Red-wash to be applied to the wound, which is gradually filling up, the whole exposed surfaces of the bones being covered with healthy granulation. To-day Mr. George removed three small spicula of bone from the wound, which had given the patient some annoyance when the dressing was changed.

Nov. 6. Continues to gain strength, the wound is rapidly filling up with small florid granulations, gives him very little pain; health good.

8. A splint applied so as to keep the joint steady in the half-bent position, and the patient got out of bed for the first time since the operation; his arm placed in a sling.

His appetite and general health are wonderfully improved since the operation.

ADULTERATION OF QUININE.

To the Editor of THE LANCET.

SIR:—You will confer a favour on the profession by giving publicity to the following test for discovering salicine, with which the sulphate of quinine is adulterated very largely, from its physical character, being very similar to that important alkaloid. In a letter received from M. Pelletier, of Paris, he directs twenty drops of the pure and concentrated sulphuric acid to be poured on twenty grains of the suspected quinine, when the solution will present a most beautiful crimson colour, more or less intense, according to the quantity of salicine present. The adulteration of one part of salicine with ninety-nine of quinine is, by these means, easily discovered. I remain, your obedient servant.

CHARLES J. CROFT, Surgeon

17, Fish-street Hill, Nov. 1st, 1838.

TREATMENT OF FRACTURES
OF THE BONES
WITHOUT SPLINTS OR BANDAGES.

Some valuable papers on this subject were published in The Lancet for 1835-36 (vol. 1, pages 168, 245, 283), by Mr. Radley, of Newton Abbot, in Devonshire, exciting much attention, and inducing many practitioners to adopt the plan recommended by the author to procure the reunion of fractured bones. His propositions were not wholly new, for he had himself practised the system of gentle usage nearly twenty years before, and it had been partially employed by one or two other surgeons within that period, but the extent to which he carried his principle, and the ardour with which he enforced it, were wholly new. He has since that time abated neither of these in any respects, his convictions in its favour having, if possible, increased with his additional experience. This opinion we form from the perusal of another paper on the subject with which that gentleman has favoured us, and from which the following extracts are taken. We refrain from publishing the communication entire, chiefly to avoid supplying grounds for a controversy, which might be forced upon us by those opponents of Mr. Radley's system, against whom he has directed some replies in the present paper, being satisfied that on either side only well-observed facts are necessary to secure the legitimate objects of those surgeons who may direct their attention to the subject, whether the result be for or against the treatment of fractures without the interference of splints and tight bandages.

Further Remarks by Mr. Radley.

Of late (says Mr. Radley) professional visits have again enabled me to take a survey of the fracture wards, in the public hospitals of many of the counties of England; and, with some happy exceptions in the great infirmary of Bristol, and a solitary display of true science and surgical kindness to a little boy with both legs fractured, in the Devon and Exeter hospital, whose limbs were laid on a soft basis, with wetted cloths over them, I have little good to record of the practice of those places. The smiling face of the boy, lying at ease in the Exeter ward, I shall not forget. The surgeon who attended him was Mr. Luscombe; *but*, generally speaking, in fractures, with regret I state that, despite the cases extant exhibiting the successful results of a plan which is opposed to force, I found patients splintered up with as much rigour and ferocity as could have been employed in the darkest periods of surgical art. I paced the wards with indignation, viewing the sad faces of the poor inmates, writhing, many of them, under absolute torture, from the most absurd and ill-contrived pieces of mechanism. At what public hospital, thought I, shall these pernicious agents be first abolished? Not, sorry am I to say, in the high places—in the pure surgeon's strong-holds, where the example should be set. There prejudice holds a tyrant sway, and pride and fashion set examples often of the worst and cruelest practice. This is strong language, but I do not choose to mince words for the pampered appetites of those who cannot relish the plain fare of truth. From a letter before me, written by an old friend, a surgeon, resident in London, dated March 3rd, 1836, I make the following extract:—

"I have read your fracture communications in The Lancet with no small degree of satisfaction. Knowing the source from which the new views and practice have originated, I fully believe your facts, and have endeavoured to make others believe them also. I spoke to Mr. ——— that most able surgeon of the ——— hospital, but he seemed to think that crooked legs must follow the non-employment of splints, in cases of fracture. I have seen one case of simple fracture in this hospital without splints, and shall look to it." And here ends my friends remarks.

Another surgeon, six months after, standing in the midst of his pupils, by the great man who was then removing the long splints from a patient's thigh, exclaimed,—"There! you see as straight a limb as Mr. Radley could have turned out from his bandage and pillow, which plan I certainly shall not try while I can obtain such cases of restoration as this by the received methods of splintering."

No doubt as straight a limb can be turned out sometimes by splints, and had my patients no more feeling in their limbs than spars of wood or bars of iron, I might, as a matter of indifference, use splints too. But on these occasions not only do they possess common sensation, but that sensation is preternaturally increased by the injury often almost beyond endurance; and I know that a pillow and light bandage aid in restoring the limbs in about half the time, and with a hundredth part of the usual pain that attends the use of the splints. Without, then, being so fastidious as the philosopher who threw away his cup because he found that he could drink water from his palm, yet I would for ever abandon splints, even if they did produce as good restorations as the soft pillow; but the fact is, that the

best *cures* are effected by the pillow, and nothing but the sorceress Prejudice could enslave the mind to the false maxims of *custom*, while nature stands by inviting us to their unqualified rejection. Clinical reasoning and demonstration will not advance much in our great charitable institutions while plans of medical treatment are refused to be compared and contrasted before the pupils, unless the proposed improvements come recommended by the precepts and example of some hospital surgeon.

The history of splint whims would afford an amusing if not a very instructive research. That great surgeon Pott branded the short splints as they deserved, and, by his exposure of their mischievous effects had, I thought, long since caused their entire abolition. But, from late observations, they seem to require another effort to effect their removal. But here we have the short splint ousted; for the long Dessault's splint is still the favourite long thigh-splint of most surgeons. Some practitioners would place the leg on Mr. Amesbury's apparatus. Others choose the massive apparatus of Bell or Cooper, or other great inventors. Some revere the hills and dales of Earle's bed. A few choose M'Intyre's leg-splint. But however cheap the price of any (and this forms one recommendation), the patient will find them dear enough. Lastly, some splint-maker, in THE LANCET, at great length insists that his machine is the very best of them all, and so it may be the *least* cruel to the patient; but *none* of them are formed on any *curative* law, and in practice they must all, therefore, be worse than worthless. The necessity for splintering is a phantom of the imagination. The fact that splints are injurious inventions is proved by the splint-makers own condemnation of each other's apparatus. Surgeons are themselves for ever labouring their brains to make what never can be made—a perfect splint, rejecting one sort after another every year. Hear the testimony of one of these practical men on the work of a colleague in the construction of a fracture apparatus:—"The common inclined plane is a *rude and imperfect piece of mechanism*." And yet it is in use by many surgeons in the 19th century! In page 117 of THE LANCET for Oct. 1837, stands the record of a case in which the apparatus of Mr. Amesbury has the credit of causing the broken ends of a fractured femur to override each other, and "turn out" one limb an inch shorter than the other. The whole page, indeed, may be read as an argument against the use of any fracture apparatus. I have, on referring to another communication, the opportunity of fully *agreeing* with one maker, who says of splints that "the funds of charitable institutions could be relieved of much pressure in this particular." Yes, indeed, the money so saved might go a long way to purchase pillows and soft beds. When a poor person who, at home, has generally reposed on a feather bed, meets with a fracture, he is taken from his home, and his soft couch, to lie for weeks or months on hard flocks in some hospital. Even were he sound and hale, the change in his bed would for some time be irksome to him. How much more so, then, when lacerations and pain are superadded! "Wearisome nights are appointed" unto them, which some hospital Howard of our day would do well to relieve by producing a reform in the present treatment. Let him examine the merits of even the last "improvement" in splints—M'Intyre's—one that is "to supersede all others." Take a case in illustration. There is on record, in connection with it, the case of one Peter Toms, of whom, after he had rested for a month upon "the block," no wonder that we read,

Nov. 21. "There is a small sore on the heel, from its resting on the apparatus."

Would any man in his senses lay his sound heel for a moment on a block?

Dec. 20. "He complains of pain in the heel, and there is a small superficial slough in the centre of the sore.

Dec. 24. "The small slough has come away.

Jan. 4. "The sore on the heel is cicatrising.

12. "The heel is quite well."*

Nearly eight weeks was this poor fellow annoyed by a troublesome sore on his heel, in the depth of winter.

Amongst my private communications on the subject, of which I have a great number from which to select, is a letter from a gentleman in Devonshire, one of a family famous for talent in our profession. Mr. Frederick Shorland Gervis, of Tiverton, writes to me as follows, dated May 2, 1836:—

"I have read with much pleasure your paper, relating to the substitution of a pillow, in cases of fractures, instead of splints. I have now under my care a case of compound fracture of the tibia, of a woman, about forty years of age, who, in a state of inebriety, fell, and very badly fractured her leg. When I saw her the limb was much swollen, and very painful. I laid the limb upon a pillow, and continued the use of cold applications for several days, until the inflammatory action was subdued. I then had a box made, with sides, fastened to the

* What a pity, that now, as in Achillean days, men should have vulnerable heels! A neighbour of mine, having worn the Frenchman's long splint night and day for twelve weeks, for fracture of the femur, was still kept limping in-doors six weeks longer by such a sore as Peter Toms, of London, had. But it is quite refreshing to hear him now inveigh against splints.

bottom of it by hinges, to turn down, and a footboard at the extremity. A pillow was then put on the nether board, and introduced under the limb, which was carefully raised for the purpose, and then gently laid down. The sides of the box were then raised, and fastened together by straps and buckles. The pillow was drawn close to the leg, by strips of bandage previously arranged. To make it more secure, pieces of tow were pushed in at the sides, and by this arrangement no motion of any consequence could take place. The matter discharged freely from the wound in the first fortnight, and my only application was a solution of the chlorate of lime, with an occasional poultice. The wound is now quite healed, the limb perfectly straight, and in a short time its use will be completely restored. The beautiful effect of this mode of treatment is the ease to the patient, who feels as if nothing was the matter, or only as from a contusion and its effects; and I think I may venture to predict, that I shall never again use splints in fractures. The box* appears to me at present to be an improvement, although the pillowing is precisely the same in principle, and infinitely superior to the old mode of treating fractures. Your suggestions have been, I am glad to see, well received, and, although you had some opposition in carrying those principles into practice, yet I may now congratulate you on their success, and think the profession are much indebted to you for your valuable papers. You may make what use you think proper of my letter. Probably you have forgotten me, as it is fourteen years since I saw you last, at Newton. I remain," &c.

On this letter one remark may be allowed me. Mr. Gervis, in his praiseworthy anxiety, lest any undue motion should cause injury to the patient, inclosed the pillow in a box. There cannot be any particular objection to this, because the pillow, on three sides of the limb, is in every respect the same; but as to its necessity, to prevent undue motion, there is no need for it whatever. The dense, though soft and thick, sides of the pillow will, in every case, support the limb quite sufficiently. I lately saw, in a large public hospital, a very badly comminuted fracture of both bones of the leg, lying upon a soft cushion, without any other support whatever; the discharge was copious, and the case appeared to be doing well.

[Mr. Radley here proceeds to give, in a letter from Mr. Hele, surgeon, of Ashburton, the particulars of a case of fracture of the femur, in a child two years old, from falling down stairs, which he treated without splints, but the termination of the report has experienced some irregularity, or been mislaid, and we cannot give the whole details. Mr. Radley observes, that "Mr. Hele is the first surgeon who has treated a fracture of the femur successfully without splints." The portion of manuscript which has gone astray also mentioned two other cases, after relating which Mr. R. thus proceeds]:—

The foregoing cases are intended to show that when fractures are placed in a proper train at first, it is not a little that will subsequently derange the steady progress of the case to a perfect restoration. The following case will as strongly prove, that when once laid and set right, it is best to leave well alone, and not meddle with the limb, on light grounds, nor from slight causes disturb its position.

Mr. John Perrett, of East Ogwell village, slid down on some rough paving, and fractured the fibula, one inch from its lower extremity. This happened at night, and there had been a dislocation which was "pulled in," as they expressed it, significantly enough, before I came. He was placed on a pillow, and a wetted bandage was lightly applied, and a sedative administered. He was restless that night, and when, on the next day, I saw him, his movements had deranged my tailed bandage and all the et ceteras of appliance. A better bandage was more deliberately made, and laid on a softer pillow, the leg was raised; and now the war began, for as soon as the limb was held up, though slowly, and with great care, spasm of the most severe description shook it, and gave the patient, a man of rigid fibre, great pain; and half an hour elapsed, under constant fomenting, before the offended member could be lulled to peace. But this man, in less than six weeks, when standing on the same rugged pavement on which he fell, would officiously show me how well he could walk to the stable without stick, or other support, to lead out the horse.*

* There is one use of such a deep box, which, I perceive, Mr. Gervis understands, though he has not named it; and that is the advantage of being able to place steadily two or more pillows one upon the other, for the sake of laying out the limb high, and in a horizontal line, above that on which the patient's trunk rests. The advantages of this position are sometimes great, when the vessels are full of blood, and you wish them emptied with facility, to subdue or lessen tumefaction. In this position degorgement of the vessels will not only go on more rapidly, but the thigh will be bent on the pelvis, and the anterior crural nerves relaxed, &c.

* To show the effects of opposite treatment, Mr. C., a master tailor, of Alphington-street, Exeter, met with a like accident in a room. He was splintered up he told me. I asked him if he did not suffer pain. With

For the sake of mere form and appearance, then, when a limb has been well disposed of in the first stage, the state of reduction or accurate *setting*, I shall, for the future, take good care not to disturb the limb, in the second or *acute stage* of suffering, until the inflammatory action and pain, and the acute symptoms, have subsided, lest the third and last period should be marred, and the progress to complete restoration hindered. It is in this stage that a little motion is useful, in hastening the recovery of the limb to its natural uses.

One case more only shall be related of mine. It presented severe compound fracture of both bones of the leg, two or three inches above the ankle.

John Woodman, on the 5th of May, 1836, was ripping or rinding oak bark in Yarner wood, on the border of Dartmoor, and near Hightor; being on the side of a hill, the tree rolled, knocked him down, and went over his leg. He was brought home seven miles in a cart, jagging all the way over the rough masses of moor stone, the debris of granite, and other primitive hard rocks, there strewn,—as rugged a road as a geologist would desire to see. I found him with a wound made by a point of the bone, that with singular malfortune had torn through the large vein above and before the inner ankle, just where the nervus saphenus becomes inseparably united and meshed in with the coats of the larger vein of the same name. This was an untoward wound, and a painful one. The displaced bones were accurately adjusted, after being first laid on the tailed bandage and pillows. Blood continued to ooze from the wound, consequently the vessels were not gorged, and there was more coldness than tumefaction. John Woodman tells me he is 68 years of age, but hale; still, the result of such a compound fracture is somewhat dubious.

The whole limb, the foot in particular, was cleansed from the blood and dust which coated it. Camphorated spirits of wine was applied, and the toes were *immediately covered with flannel*, to restore warmth and reaction. This was effected. Sedatives * were administered at night, with aperients in the morning, as often as required.

For the first week blood continued to flow from the wound, which looked ill-conditioned. An inflamed and elevated red line appeared in the course of the injured nerve and vein, almost to the inside of the thigh, and was exquisitely tender to the touch. Tincture of opium, or spirits of wine, alone, or with camphor, was diligently used, after a most careful bathing night and morning. An ointment of the nitric oxide of quicksilver, with wax and lard, was applied to the wound, from which a lymphatic discharge continuously flowed.

At the end of the second week a little wine and more nutritious articles of diet were recommended, and my visits were now lessened; but six weeks, to a day, elapsed before, with the aid of a crutch, he was enabled to come down stairs; and being a pauper, he looked very meagre, having half-a-crown a week only to provide everything he wanted. But thus it is,—whether an industrious man meets with misfortune in his proper labour and vocation, or whether a drunken fellow by habit courts disasters, a like niggardly system of relief is doled out to each. I asked him how he was supported, with his daughter to nurse him, so many weeks, on such a scanty pittance. His reply was, "Sir, I should have starved, had it not been for the kindness of the squire, George Templer, who often sent me meat and other things from his house." The poor of Newton know how to appreciate the charity and now habitual unwearied generosity of this liberal-minded gentleman. The old man recovered perfectly, without any crookedness or deformity of the limb; and now works in quarries, or scrapes and repairs the public roads.

In calling the attention of my professional brethren to the following recital of a similar case, which I earnestly do, by way of contrast, should any one think that other motives besides a zeal for science, and the hope of ameliorating the treatment of fractures, prevail, he little knows the humble character of the writer. In the Lon. Med. and Surg. Journal for Saturday, January 16, 1836, at page 976, we read the following miserably treated case, with its fatal termination:—A young and healthy man was knocked down by the fall of some rubbish, and his leg being forced against some brick-work, a bad double compound fracture of the leg was consequence. Read the case at length and judge if a case more to the scandal of good surgery is on record:—

"Dec. 9. The limb was placed on M'Intyre's splint, the knee being NEARLY STRAIGHT, and the foot-piece raised upon a block. A bandage fixed the foot to the splints, and another, beginning just above the fracture, was carried up to the groin. Dry lint was placed upon the wounds, and retained by a

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uplifted hands, he said "Oh, my God! for the first few hours my leg and ankle felt *as if in a vice!* He was two months in bed and room, and then hobbled on a crutch, for a month more," &c. Mr. P., coach-builder, a neighbour, met with a similar accident; and was splintered also. Those cases occurred but a few years since.

* I see all he took was three phials of the following drops:—

Acetate of morphia, 1 grain;

Liq. of acet. of ammonia, 1 ounce;

Antim. wine, 2 drachms. A sixth part every four or six hours, or whenever the pain is severe. A better medicine is seldom used.

third piece of bandage." (A third piece of bandage!) He took ten grains of Dover's powder. Complained of "pain in the heel (no wonder!); to relieve this pain the limb was raised up. Before the limb was raised it was lying in a very good position *on the splint*. (How comfortable!) Had it not been for the *pain in the heel*, it was to be regretted that the limb was disturbed, as there was no displacement of the fractured bones. He took castor oil, and his bowels were very frequently moved by it (a pretty piece of mismanagement this!); and, in consequence, the man has moved himself, and the limb was otherwise disturbed.

"Dec. 12 and 13. He took four grains of muriate of morphia in the 36 hours, although his bowels had not been again opened for three days. (Extremes do sometimes join.) Still ordered to continue the morphia;" "two grains, two and a half grains, and three grains more were given in the course of an hour." &c.

And this is a public report from one of the hospitals in the metropolis of the British Empire. There is no valid reason, is there, why splints and other execrable apparatus, should be abolished? Why did ye fear the man would run away from ye? I wish he could.

Again, such excessive doses, eleven grains, I think, in toto, of the hydrochlorate of morphia! Contrary to all that judicious practitioners have laid down of the folly of giving the same narcotic over and over again, when it has no beneficial effect; yet here it was persevered in, as though there was no one sedative but muriate of morphia. If a verdict had been recorded on that man's death, and the cause of it, should it not have been "manslaughter" against him who prescribed such enormous doses? It was enough to hurry the poor fellow into madness and death, which it prematurely did. Let Drs. Sigmond and Magendie, who know the nature of narcotics, and their action on the brain and nervous system, say if any other catastrophe could have happened than death or madness, after such poisonous doses.

From the unsuccessful issue of this case, it appeared to be resolved on to try free bloodletting in a future one: bloodletting in fractures—at this time of day! I protest against that malpractice.

In fine relief to this case stands a comparatively unrivalled one,—a cure of fracture, and a very bad one, too, of the leg, by Mr. Sampson, surgeon, of Ipswich. Verily, we country surgeons have seized and fairly borne away the palm from those of the town. If the latter do not alter their course, and change their plans, we shall retain it. Improving the old devices will not do: they must be changed altogether for milder means.

On the 21st of February, 1836, Mr. Alexander Baller, of London, being engaged in mercantile pursuits at Ipswich, fractured his leg, and in that fine town three surgeons were soon in attendance. Besides Mr. Sampson, Mr. Bartlett (son of Dr. Bartlett), and another medical gentleman, were present. The care of the patient devolving on Mr. Sampson, he addressed his compeers somewhat as follows:—"Our friend before us is removed from his family and his home; any loss of time to him will be of moment, and the case is a bad one; but I have lately read a paper by a Mr. Radley, of Devonshire, recommending the use of a pillow instead of splints, in cases of fracture. I think this a very proper case to try the plan, and if you coincide with me it shall be adopted." In this proposal he was not supported, because they had never tried such a mode. Mr. Sampson then appealed to the patient, "You have heard our deliberations; decide for yourself, whether you will be splintered in the usual way, or will have the pillow plan tried? "As to splints," replied Mr. Baller, "I have felt pain enough from them already, so, if you please, we will, on this occasion, try the Devonshire doctor's plan." The limb was placed on a pillow, and success was complete. "The spasms," said the patient to me, "from the first were slight, and after three days I felt no pain; my pint of wine a-day was invariably taken as before, and my other reasonable enjoyment was not lessened, for I soon felt not the slightest pain; my cigar was smoked as usual, and I could converse, and soon sat up; my pint of wine was sometimes, in fact, increased to a bottle, and in six weeks I was again in my chaise travelling on business, and now I can walk as well as ever;" and, suiting the action to the word, Mr. B. stamped his foot on the ground. He related to me, in Newton, the termination of his Ipswich disaster. Mr. B. said, that he had called to thank me for my instrumentality (with Dr. Sampson) in the cure, and said I might publish the case. This is highly gratifying, and why are not more of such cases published? If I have taken a liberty with Mr. Sampson or Mr. Bartlett by mentioning their names, in connection with this case, I beg their pardon, though it appeared to me improper that so good a case should be lost to the public.

But, among others who have not been slow in action with the new plan, is Mr. Burke, who does honour to our profession, at Watford in Herts. In a pamphlet lately published he has done ample justice to pillowing, though I could have wished he had been less complimentary to myself, and that, instead of honouring me with a dedication, he had addressed his work to the managing directors of our public hospitals and infirmaries, and pointing out to them the misery endured by the poor fractured patients in those institutions, where the nurses should have it made part of their duties to turn off

the ends of the tailed bandage, and, whenever the patient endured pain, to soothe that pain by tepid water, or apply spirituous embrocations, such as might be ordered, so often as those pains were urgent,—a means that I depend on, in all common cases, to banish pain. No means that I have ever seen tried allays the exquisite sensibility of the capillary nerves as ether or spirits of wine, and camphor solutions, alternated with tepid water, or decoction of mallows, or hemlock, poppies, &c.; but they must be applied unweariedly for the first five days.

But there is much matter most interesting in Mr. Burke's little work; for in many points he has made the new system his own, by publishing some well-conceived directions for the management of particular cases. For so short a time that the pillow has been used by him, he has made great progress; and when he has had more proof of its universality, he will not find it necessary to encumber the system with any additions; though it is natural to do so with that praiseworthy caution which guards a trial of new things.

I can assure Mr. Burke and the profession, that it was never contemplated to keep a patient in bed, with fractured arm or forearm, for six weeks, or for any longer period than would allow him to carry the arm where he pleased, or as soon as the fracture would bear the jar of the footstep in walking. Circular plasters on leather, and bandage in the circular or uniting forms, have been applied by me to add strength, and also bandages dipped in thin glue, or solution of isinglass. M. Velpeau has lately, before the French Institute, demonstrated the uses of bandages dipped in laundress's starch, for the same purpose; and I cordially agree in his intention of enabling those persons to walk early, by giving artificial firmness to a limb that would otherwise be too weak. Let Monsieur V. and the non-splinterers unite their forces for the patient's good; and when, by the aid of my pillow, a fracture patient is in part restored, and can show his leg and plant his foot in the second and fourth positions, he will then, by M. Velpeau's consolidating bandage, soon be able to perform those steps and evolutions with ease and grace, for which the polite people of his nation are so famous.

The cases which have occurred to Mr. Hele and Mr. Ayliffe prove the ignorance that prevails in the community on the rational mode of restoring fractures. This mode, the public must be shown, is without pain, or nearly so, and without constraint. An enlightened surgeon, whose name I withhold, attended to a hasty summons, and found that the accident was attended by a fractured leg. He pillowed it up most carefully, and left it to his and the patient's satisfaction. A man of influence called to see the sufferer, and expatiated on his "certain knowledge," that from what *he* had seen and *knew*, the leg would never get well without splints, &c. Early in the morning the rude wife came in, and with a curtsey to my friend, said, "Sir, we are very much obliged to you for what you have done for my husband, and I am come to pay your charge."—"Much obliged to you, Madam, but what is the matter?"—"Oh! why, Sir, Mr. —— says you seem to know nothing about setting broken bones; for you didn't splint the leg at all." My friend rode off, sent for the surgeon, and explained the new practice to him and the patient, adducing a few cases, with which they were at length hardly reconciled, and in a month my friend's truly kind perseverance was rewarded by his patient's complete restoration.

My friend, who is a new proselyte, when relating this trouble, shook his head, and appeared chagrined at having his knowledge called in question, in such a plain case. I told him not to mind, for that in twenty years I had been so treated, and had lost two or three patients, who, on comparison, afterwards, with other of my more confiding fracture patients, found they had gained nothing by the old system but pain; and now I am no longer subject to these rebuffs.

Another surgeon who had seen naval practice, having tried the pillow plan successfully, was, like most new converts, when the light of some truth bursts fresh on their mind, full of zeal, and declared how superior the pillowy mode was even to the hospital practice. "How often," he remarked, "when I was an assistant, at Plymouth, have I seen vesications arise, and that unexpectedly, too, even in twenty-four hours after fracture; and while the actual state of the limb was concealed by splints, we used guesswork, or else were at the continual trouble of splintering and unsplintering the limb, and then applying leeches and other means to subdue the increased action, which was the consequence, either in a greater or a less degree, of what I now know is unnecessary pressure; whereas, by your method of pillowing, there is so little to be taken off and replaced, that surgeons for their own sakes, I am sure, will not be slow in adopting it."

The strangest assertion of those who oppose the plan is, that *pressure* prevents spasm. By strong pressure benumbing the nerves, pain and spasm would, for a time, be conquered, not subdued, for the period of reaction, will come, and then for the dread result. If pressure be wanted to degorge the vessels, and, like them, to prevent a wrinkled brow, lay a flat piece of sheet lead on the swollen limb of the patient, as I have done. It is both cooling and sedative, and gently produces degorgement.

THE LANCET.

London, Saturday, November 17, 1838.

The extraordinary and appalling circumstances which attended the decease of the late Mr. Lockley, demand, unhappily, another brief notice in the pages of this Journal. It is not an affair that admits of argument, or involves materials for controversy. Even the language of condemnation must seem but a mockery of the feelings of every humane and properly constituted mind, in exposing to the world the conduct of such a "friend in need" as the President of the College of Physicians. The character of that conduct can be adequately felt by every member of our profession whose mind has not been debased by indulging in practices which are known only to sycophantic and intriguing courtiers. It looks well, not only for the profession, but for the humane feelings of the community of this country, that the conduct of Sir Henry Halford towards his friend, has produced one general burst of indignant reproach. Had such an extraordinary act of inhumanity been passed over in silence, and without observation, we know not what might have been said of our countrymen. It is, also, a satisfaction to know that the first comments on the subject appeared in a political journal, and the public are much indebted to the Editor of the *Times*, for the notice of the transaction which was published in the columns of that paper. After the first intimation of the fact, several letters were also admitted into the *Times*, in which were bestowed upon the faithless "friend," some severe but well-deserved castigations. There was one, however, amongst them, which proved to be far more useful than the others, inasmuch as it elicited from the courtly culprit an attempt to justify his railway flight from a dying companion. Here are the two documents. That of the President deserves to be perused with great care. Afterwards an equal degree of attention should be bestowed on the facts which we have to record, illustrative of the veracity that signalises the "defence" made by this humane physician in the endeavour to justify his treatment of a *death-stricken friend*. The public could scarcely expect such an exposure. Yet it is not unusual for falsehood and cruelty to be the companions of the same bosom:—

To the Editor of The Times.

Sir:—I have waited for several days, in the expectation (to which my wish was father) that a contradiction of the late melancholy occurrence relative to Sir H. Halford and his deceased friend, Mr. Lockley, would appear from some authorised correspondent. The matter has been noticed in several of the provincial journals, and Sir Henry must be aware of its notoriety. I grieve to find that he is not as fully sensible of the heartless and discreditable nature of the action to which I allude.

So this is fashionable friendship! This is the conduct of a man born and educated as a gentleman, and who is nearly allied to one who would have acted in a very different manner! A physician, too! He leaves London in company with an individual for whom he has always professed a more than ordinary regard; that individual is struck with death in his presence, and under circumstances, the fatal nature of which must have been better known to himself than to any one else; and he leaves him in the care of strangers, doubtful whether he shall see him again a living man, to hurry forward to his own country-seat, where he coolly carves a haunch of venison, and drinks champagne with his guests, as if nothing extraordinary or unusual had occurred, perhaps wondering, over the sixth bottle of claret, "whether poor Lockley be alive"!

If these facts receive no refutation (and if they can receive one, it ought to have appeared sooner), I am bound to say that they convey to my mind a feeling of unmitigated disgust. This letter is not written from motives of private pique and personal enmity, for I never spoke to Sir Henry Halford in my life, and, what is more, I hope I never shall; but, in common with the rest of the public, I strongly deprecate such un-Christian-like behaviour, and denounce its heartless inhumanity. I remain, Sir, your obedient servant,

Homo.

To the Editor of the Times.

Sir:—I have been appealed to, in such terms as I cannot resist, to give some account of the circumstances attending the death of Mr. Lockley. Here is the unvarnished tale:—

Mr. Lockley had been unwell in the spring of the year, but had recovered in the summer. Believing that a change of air and of scene might do him good, I invited him to accompany me my next visit into Leicestershire, and we set out the following morning, the 2nd of October. We proceeded to Euston-square, where he had a fall; but he assured me repeatedly, in answer to my urgent questions, whether he were ill, or had fallen by mere accident, that it was merely an accident.

When we had passed Watford Mr. Lockley became sick, and soon afterwards fell asleep, breathed oppressively, and did not answer to my questions. In this state, when we arrived at Tring, I took him out of the carriage, and carried him into the parlour of the inspector of that station, a most humane person, who sent off instantly, by my desire, to Mr. Dewsbury, of Tring, a medical practitioner of much credit and business there, desiring him to come, or to send his assistant immediately, to Mr. Lockley's aid. I gave directions what should be done, and requested further that Mr. Dewsbury, when he had bled Mr. Lockley, would send a message to London, to apprise his family of the misfortune, and to request Dr. Lockley, his son, to come down immediately. Having given these precise directions, I felt that I could not be of any farther use at present, and therefore pursued my journey. Mr. Dewsbury executed all my wishes within an hour, and Dr. Lockley arrived at ten o'clock the same evening.

I should have been ready to return the next day, but after Mr. Dewsbury's first visit Mr. Lockley had the daily assistance of friends from London, and Dr. Watson gave his sanction to his patient's removal to London on the 6th, which I learned by a letter from Mrs. Lockley the following day, informing me that he had accomplished the journey without inconvenience and was thought better. If I could have administered instead of directing only, the expedients of our art to my friend, I should have done so, but, feeling assured that I had provided Mr. Dewsbury's or his assistant's immediate attention, I went on; and my conscience does not reproach me with the slightest neglect of my friend, who died, not that evening, as has been erroneously stated, but on the 14th of October, twelve days after his first seizure, in the bosom of his family, in Half-moon-street. I am, Sir, much your servant,

HENRY HALFORD.

Curzon-street, Nov. 5.

The members of our profession thus learn from the statement of Sir HENRY HALFORD, that Mr. LOCKLEY had a fall; but no mention is made that the unfortunate gentleman struck his head when he fell. Still, the friendly Sir HENRY was "assured that it was *only* an accident." Observe the first sentence of the third paragraph of his letter; it is well worthy of remark by all who know anything of the effects of injuries of the head, and of the prompt and immediate treatment which such injuries should receive:—"When we "had passed Watford," says Sir HENRY HALFORD, "Mr. LOCKLEY became *sick*, and "soon afterwards fell asleep, *breathed op-* "*pressively*, and did not answer to my ques- "tions." Now *we* can state, from the information furnished by the persons who assisted in taking Mr. LOCKLEY from the carriage on his arrival at Tring, that he was completely insensible to all surrounding objects; that his head was drawn towards one shoulder; and that his breathing was, to the highest extent, stertorous. In fact, they every moment expected him to expire. We need not state to any person,—unless he be the President of a College of Physicians,—what treatment such indications obviously and instantaneously demanded. Such a question requires no discussion here; but in this dreadful state Mr. LOCKLEY was transferred from the aid and companionship of his "distinguished" medical "friend," to the care of a youth, not the *assistant*, as has been stated, but a young gentleman under twenty years of age, the *apprentice* of a surgeon in Tring. As Sir HENRY HALFORD is ever quoting from the Scriptures, and constantly professes to make the Holy Writings the standard of his morality, we may remind him that in the book of "ECCLESIASTICUS," it is said that—

"Some man is a friend for *his own occa-* *sion*, but will not abide in the day of *trou-* *ble*."—*c.* 6, *v.* 8.

"Some friend is a companion at *the table*, but will not continue in the day of *affliction*." —*c.* 6, *v.* 10.

"If thou be brought *low* he will be against thee, and will *hide himself from thy face*."— *c.* 6, *v.* 12.

After the peculiarly inadequate description of Mr. LOCKLEY's afflicting condition,—a condition in which the only manifestations

of life were to be found in the difficult breathing, and the beating of the pulse, Sir HENRY says,—"In this state, when we ar- "rived at Tring, *I took him out of the car- "riage, and carried him into the parlour of "the Inspector of that station*, a most *humane* "person."

Oh, thou precious judge of *humanity!* THOU didst take thy friend out of the carriage! THOU didst carry him into the parlour of the Inspector! Are these thy statements? Then let the profession and the public hear the plain and naked truth. The evidence which we have to offer has been received from the lips of the persons who *really did* discharge, with care and benevolence, the obligations of humanity on that trying occasion. Accident has since taken us to the spot where the catastrophe really occurred, and, singular to relate, some members of our own family were present at the scene, when the train which conveyed Mr. LOCKLEY arrived at Tring. Is it true, then, that Sir HENRY HALFORD "*took* Mr. LOCK- "LEY *out of the carriage, and carried him* "*into the Inspector's parlour?*" Is it true that he even *saw* either of these things done? No, is the reply; and, incredible as it may appear, the officers of the Railway who took the all but lifeless body of Mr. LOCKLEY from the carriage, did not even conjecture that the President of the College of Physicians was the "friend," or even the *acquaintance* of the object of their solicitude! What, then, did really happen at the station? We marvel at the astounding audacity of the man in placing upon record, and in publishing in such a journal as the *Times*, the assertion that HE took the sufferer out of the carriage, and that HE carried him into the parlour of the station-house. The impudence which signalises this assertion is only equalled by its author's fidelity as a friend. We again ask, What really did happen at Tring?

The train having arrived, the officers were beckoned to one of the carriages, and thus accosted by a venerable-looking personage within:—"Officer, here is a very respect- "able gentleman, extremely ill. Do take "great care of him, and send off immedi- "ately for medical advice,"—at the same time the speaker handed to his auditor a card, on which was engraved the name of *Sir Henry Halford*. Did this "friend" even *get on* of the carriage? *He did not*, but, frightful to relate, actually flew off with the train, leaving his senseless and speechless friend in the open road, and supported in a chair, placed on the cold clay, by the hands of official strangers! Good God! Well may the correspondent of the *Times* ask if this be "fashionable friendship!"

In the Chapter from which we have already quoted, it is said, that "A faithful friend is the medicine of life." On a late occasion it is much to be feared that a *faithless* friend was the medicine of death.

In closing our notice of this distressing subject, we feel it to be our duty to state that Mr. LOCKLEY was treated with marked humanity and attention by the officers of the Railway who conduct the business of the station. *Tring*, it should be known, is situated at a distance of nearly *two miles* from that place, so that even the aid of Mr. DEWSBURY's youthful apprentice was not obtained until Mr. LOCKLEY had been moved to Tring, over a rough road, in an omnibus. He was conducted thither, and held up in his seat, by one of the chief officers of the station, and four subordinates of that establishment. He was put into a bed at the *Rose and Crown* Tavern, a respectable and well-conducted house, where he received every attention which a kind solicitude could bestow. He had property in his pockets of the value of upwards of sixty pounds, of which an inventory was taken by the collector of the station, and his name and address were found at the *Rose and Crown*, on a card which was discovered in his pocket.

THE leading principles which should characterise the administrative institutions of every great empire, are uniformity and simplicity of regulations, responsibility of agents, publicity of proceedings. These are essen-

tially necessary to the well-doing of any body of men associated together for the purpose of administering to the wants of society, or combining individual efforts for the public good. Without an observance of these principles confusion prevails in the council, agents become lax in the performance of their duty, abuses multiply, and elements of decay are generated, which, sooner or later, lead to complete dissolution. Such is the state of the medical profession in this country at the present day, so far, at least, as its administration is concerned. Council there is none, unless we rely upon the axiom, "in the multiplicity of counsel there is safety," and estimate nineteen foolish heads at more value than one wise one. Responsibility of agents there is none. Corporations, companies, clubs; universities with charters, and colleges without them; hospital physicians and hospital surgeons; treasurers and governors; all are irresponsible, and pursue their own course, unchecked—unpunished—save, now and then, by "the still, small voice of conscience," or the loud clamour of public indignation. The manes of JAMES CHAPLIN still wander unappeased; the cloak of friendship has been thrown over the imbecility of the septuagenarian who would have committed a sane man to the horrors of a madhouse; nor, as yet, do we perceive that any means have been taken to requite the charity of the "Levite," who "passed by on the other side," when the hand of death lay heavily upon his friend. Publicity of proceedings there is none. From time to time, indeed, a balance-sheet is struck, which indicates that some fifteen thousand pounds have passed into the pockets of "Examiners;" or the outside of a well-cleaned platter is exposed to view, to dazzle the spectator's eye, and divert it from the dirt within; but all the rest is mystery and obscurity. A fog is considered by the thief as fine weather.

The details of administrative procedure in medical affairs are not less humiliating and disgraceful. The power which was granted for the protection of life is exercised for its destruction. Quackery flourishes, while true science decays. The educated practitioner is made the victim of a well-intentioned, but ill-administered law, while the charlatan, the impostor, the greedy adventurer, is permitted to exercise his calling without hindrance. The law wreaks its vengeance even on the *dead* body of the wretched suicide, yet every facility is given, by the culpable neglect of the Legislature, for the commission of the act which hurries man from time to eternity. Does a lover wish to shuffle off his coil? he needs not "forty ducats," or a "penury-stricken caitiff wretch," who will barter poison for gold; a pennyworth may be had at the first chemist's shop. You may even get a packet of poison when you send for an ounce of salts.*

Drugs are dangerous things, and children, it is said, should not be allowed to play with edged tools, yet the veriest dolt in the community writes Chemist over his door, and having thus dubbed himself with a scientific name, "relieves your body of its breath"—

> As violently as hasty powder, fired,
> Doth hurry from the fatal cannon's womb.

Even this is not the only inconvenience arising from the absence of proper legislative enactment for the regulation of medical affairs in this country. A proper dose of poison, at least, cuts short the pangs of death. The agony, if it be fatal, is also brief. But the Legislature countenances, we might even say sanctions, slow poisoning. The wretched sufferer, whose intestinal canal has been decorticated by Morison's gamboge, or the "Balsam of Gilead," has no consolation on this side the grave, unless he can solace himself with the reflection that his relatives may obtain a verdict of "manslaughter" after his decease.

The custom of practising medicine "over the counter," as the phrase runs, is also daily gaining ground. Men who are totally

* An occurrence of this kind happened a few days since in the neighbourhood of Leicester-square.

unacquainted with the structure and functions of the human body, who know little of medicines beyond their names, and nothing of their action on the animal economy, are allowed to dispense the sources of life and death in undisturbed tranquillity. The victims, indeed, are the poor, and the "res angusta domi" would appear to be a sufficient excuse for abandoning the destitute as a prey to cupidity and ignorance. The influence of this baneful practice, which prevails in no other civilised country throughout Europe, is felt beyond the sphere of the immediate sufferer. It exercises a degrading control over the junior members of the medical profession, who, in order to prevent the poorer class of patients from falling into the hands of druggists, and other ignorant pretenders to medical knowledge, are compelled, in their own defence, to keep open shops; in other words, are reduced to a level with tradesmen and shop-keepers.

These are a few of the abuses, inconveniences, and wrongs, engendered by the want of some uniform system of medical government in these countries; but we perceive that Medical Associations are being formed in all parts of the country, for the purpose of obtaining a measure which, by securing uniformity of privileges, unity of councils, and representative administration, shall afford relief from the innumerable ills that oppress a vast majority of the profession.

We observe, by a report which will be found in another part of this Journal, that the British Medical Association has appointed a Committee to examine into and report upon the details of a National Faculty of Medicine. Some light may be thrown upon this interesting question by reference to the law "for the reorganisation of medicine," which is about to be presented, under the authority of Government, to the French Chamber of Deputies, in the ensuing session. We have only time, at present, to direct attention to a few points contained in the abstract of the bill, which now lies before us. They are the following:—There is to be a *Tripartite* Faculty of Medicine, divided into three Faculties,—one for Paris; one for the south of France (Montpellier); and one for the north-east (Strasbourg). There are to be eighteen "Secondary Schools," corresponding to our own provincial schools of medicine. The number of faculties, schools, and professors, &c., may be augmented, as circumstances shall require, by the "Royal Council of Public Instruction."

Sections 3 to 20 of the law regulate the mode of electing professors, their salaries, &c.; one regulation is particularly worthy of notice: it orders that each professor, after the age of sixty-five, retire on the full salary attached to his chair. Were such a law in force in this country the lamentable scenes which have recently taken place at the Westminster Hospital, together with the scandal attached to them, would have been avoided.

Sections 21 to 28 are devoted to pupils; the only diploma to be delivered is that of Doctor of Medicine, the old title of "Officer of Health" being suppressed. Titles, privileges, and education, are to be uniform throughout the kingdom; each candidate is to undergo six examinations in the different branches of medicine, and the *whole* scholastic expense of education is not to exceed *forty-four* pounds.

Sections 29 to 48 announce the arrangements to be adopted relative to the "Exercise of Medicine." The first article enjoins, under pain of fine, that each medical man, desirous of practising the art, shall *register* his diploma, at the prefecture, or sub-prefecture, of the county in which he proposes fixing his residence.

Individuals who practise any branch of the art of healing without a diploma shall be punished by fine and imprisonment; the penalties to be inflicted by a tribunal, which corresponds pretty nearly with our police office.

Sections 51 to 83 regulate all matters which may concern the instruction or practice of pharmacy. We can refer to a few of the leading points only. Apothecaries are to undergo a regular examination, and to

register their diplomas under pain of fine and imprisonment. No medicine shall be sold in any other place than an apothecary's house. The simultaneous practice of medicine and pharmacy is forbidden. Poisonous remedies shall not be dispensed, excepting on the written order of a physician, and by the head of the establishment himself.

In order to prevent the sale of quack medicines and other nostrums, with which France as well as England abounds, the following directions are proposed :—

Every proprietor and inventor of a new remedy shall submit it to the examination of the Royal Academy of Medicine; the sale will then be authorised by the Government, according to the report of the Academy. Every remedy not described in the Pharmacopœia, or rejected by the Royal Academy of Medicine, on examination of the formula, shall be accounted a *secret* remedy; its public announcement is forbidden, nor shall it be sold in any apothecary's shop, excepting on the written order of a physician—Penalties: fine, from 12 to 120 pounds; imprisonment, from 15 days to 12 months.

Such are a few of the regulations about to be adopted, in a neighbouring country, for the better administration of the art of healing. For the present we leave them to the consideration of the reader.

REPLY OF DR. GREGORY TO MR. SIMPSON.

SUPPLY OF VACCINE LYMPH AT THE SMALL-POX HOSPITAL.

To the Editor of THE LANCET.

SIR :—Your last Number contains a letter from Mr. Simpson, of Guildford-street, complaining, in very strong terms, of the conduct of the medical officers of the Small-Pox Hospital. That letter requires a reply which your accustomed courtesy will, I am persuaded, readily allow me.

Considering that there exist in London ten or twelve vaccine stations, paid by the country, for the express purpose of supplying lymph to the practitioners of the metropolis, it might have been thought that one which volunteered its services, which never cost the country one farthing, the medical officers of which have, for twenty years, added to their other duties, without fee or reward, that of supplying their professional brethren here, and throughout the country, with their surplus lymph (the wants of the institution being first attended to),—it might, I say, have been supposed, that such an institution would have been allowed to pursue the noiseless tenor of its way, without being dragged before the public. But Mr. Simpson is pleased to think otherwise; and, at the bar of public opinion my colleague, and self now stand, and fearlessly plead *not guilty* to the charges of incivility and carelessness brought against us. We shall call into court, in support of our character, about two hundred medical practitioners, in and around London, whose names stand recorded in our books (open to the inspection of the curious), as our constant customers, whose visits would not be repeated, as they are, week after week, and month after month, if our matter was purulent, or our manner offensive. As Mr. Simpson challenges comparison with the establishment in Russell-place, I cannot forbear adding that many who look to us for their supplies of lymph, pass that very door every time they visit the Small-Pox Hospital, that some live in that immediate neighbourhood, and that not a few pass two and even three National Vaccine Stations in their rides to King's Cross.

Mr. Simpson states that both myself and Mr. Marson, the resident-surgeon (whom he politely calls my assistant or deputy), were in the room when the cause of offence occurred. Yet Mr. Simpson retires without giving me any opportunity of rectifying error, if error had been committed. I have not the pleasure of knowing Mr. Simpson, but this little incident leads me to suspect that, perhaps, he is one of the *genus irritable*, prone to take offence, where none is meant, and possibly inattentive to some of the little convential proprieties of social intercourse. Be this, however, as it may, I am quite sure he is sadly out of his element when he essays the office of critic on my "Hospital Reports." I have a tolerably good memory for that which I have written myself, and most conscientiously can I declare that, manifold as are the faults of those compositions, I was never so foolish nor so impious as "to attribute the increased prevalence of small-pox, during the last year or two, to the carelessness of medical men in not selecting proper matter." That I may have laid a portion of "the blame to the carelessness of parents in not having their children vaccinated," I at once and freely admit; but I beg to add that I feel assured there exists but one medical man from Mile-end to Hyde Park Corner, who could have found "*amusement*," in that statement, or who could have based upon it a charge against the "officials" of the Small-Pox Hospital; and that one so pre-eminently distinguished,

Velut inter ignes luna minores,

is Mr. W. Simpson, of No. 111, Guildford-street. I am, Sir, your obedient servant,

GEORGE GREGORY, M.D.

31, Weymouth-street,
Nov. 12, 1838.

P.S. I have not exhausted the subject, if Mr. Simpson should be inclined for another bout.

CORONERS' INQUESTS.

To the Editor of THE LANCET.

SIR:—The numerous cases which I have read in your publication of the neglect and carelessness of coroners, induces me to transmit two cases of sudden death, which occurred near this place, if you deem them worthy of insertion in your Journal. I am, Sir, your obedient servant,

J. FROGGATT, Surgeon.

St. Briavel's, Gloucestershire.

The following is a verbatim copy from the "Monmouthshire Beacon" of the two cases mentioned above:—

"28th Oct., 1838.

"SUDDEN DEATH.—On Sunday se'nnight a wealthy farmer, Mr. Prest, residing at Bream, in the Forest of Dean, was taken suddenly very ill; his medical attendant, Mr. Marsh, of Coleford, was sent for directly, who promptly answered the summons. When he arrived he found the unfortunate old gentleman sitting in his chair, quite dead. Suspicious rumours were in circulation in the neighbourhood, and an inquest has since been held on the body, when a verdict of 'sudden death from inflammation of the bowels,' was returned. How the jury came to such a conclusion, without a post-mortem examination, or any medical evidence, we are at a loss to conjecture."

"A melancholy proof of the text 'in the midst of life we are in death,' occurred lately in the Forest of Dean, at Park End Iron Works. A man named George Morgan, aged, we believe, about 43, went to bed, on Monday night week, in perfect health, having just attended the funeral of a friend; about four o'clock in the morning, he awoke his wife saying he felt great pain all over him, he got up, and kneeling down by the side of the bed, died immediately. An inquest was held on his body, at which a verdict was returned 'Died by the visitation of God.'"

Now, Sir, what will the public think of a jury, no doubt by the direction of the coroner, returning a verdict of "Died from inflammation of the bowels," when, from the commencement of his attack, until death, two hours had not elapsed; and that, too, without any medical evidence to lead them to such a conclusion? I need not comment on the case.

As regards the second case, the man died before medical assistance was obtained, nor was any opinion given as to the cause of death, and yet in this case a verdict of "Died from the visitation of God," was returned, whether poisoned, neglected, or improperly treated, it appears, matters not. When medical men received no remuneration for their loss of time and trouble, they were summoned on all inquests, and subjected to much trouble and inconvenience, as by personal experience I full well know; now that the law in that respect is altered, in many cases, and those, too, sometimes demanding full investigation, no medical evidence is adduced. What can be the motive for such behaviour on the part of coroners I cannot tell; it is very reprehensible, and must eventually render inquests a mere farce. Formerly I have been summoned on inquests where death was occasioned by hanging, and although parties deposed, previous to my arrival, that they found the body suspended, and cut down the same, and although no doubt whatever could be entertained as to the cause of death, yet the evidence was considered incomplete without a medical man; the case is altered now.

CARBONATE OF SODA.

To the Editor of THE LANCET.

SIR:—If you consider the following observations worthy a place in your valuable columns, your insertion of them will greatly oblige one of your constant readers. As I am interested only in the propagation of medical truths, I think it unwise to allow the opinions of so able a writer as M. Magendie to go forward to the world unopposed, when so egregiously in error as his theory is (for practice could not have brought him to those conclusions) respecting large doses of carbonate of soda liquefying the blood and causing infiltration of the lungs, pneumonia, and its consequences. I perfectly concur in the opinion of your correspondent, Dr. Congreve Selwyn; I have myself, until within a few months, practised my profession in an eastern climate, where pulmonic disease was particularly prevalent. I have had many cases of phthisis, at the same time, under my care, and have always had a great partiality to carbonate of soda, as a corrector of those remedies usually administered in this fatal disease, with the happiest results. I do almost attribute the cure of cases after "crude tubercles" had formed, to its wonderfully palliative, if not curative effects. I could advance hundreds of cases corroborative of this fact; and in all dyspeptic cases it would be most unwise to allow any limit to its administration. I have laboured under a most determined dyspepsia for upwards of four years, and I have only experienced relief from carbonate of soda; I cannot exist without *it*; I always have instant relief from its admini-

stration: I cannot say what my dose is, if I take it at guess, *ad libitum*. I have taken one pound of Howard's preparation within the last 30 days, and shall not be deterred from proceeding in its use by M. Magendie, theoretical speculations. I should like to compare opinions upon this subject with any of my most talented and experienced medical brethren. I am, Sir, your very obedient servant,

J. T. W. Carter, M.R.C.S.

21 Dorset-street, Portman-square.

BRITISH MEDICAL ASSOCIATION

Meeting of Council, Nov. 13th.

Dr. Webster, President, in the Chair.

Several applications having been made to the secretary, Mr. Harrisson, by persons claiming relief from the benevolent fund, the question of the expediency of granting immediate relief was again brought before the notice of the Council. After some discussion it was decided that no appropriation of the fund in question should be made until a sum, sufficient for affording effectual aid to deserving objects, was accumulated.

The President drew attention to the bequest of Sir A. Cooper, and also mentioned that Dr. Elliotson, although not a member of the Association, had expressed his intention of becoming an annual contributor to the benevolent fund. It was to be hoped that charitable persons, in all parts of the country, would lend their aid in forwarding the benevolent views of the Association.

The Council having resolved itself into a Committee on the National Faculty of Medicine Question, it was proposed and carried that a sub-Committee, composed of Messrs. Parr, Granville, Hall, Pilcher, Webster, and Wakley, with power to add to their number from the members of the Association at large, be appointed, for the purpose of considering the details of a National Faculty of Medicine.

A letter was next read from Mr. Chesman, Secretary to the Sheffield Medical Association, requesting information on the objects, &c., of the British Medical Association, and a copy of the laws. The Secretary was requested to furnish the required information, and to direct the attention of the Sheffield Association to the recent proceedings of the Stroud and Nottingham branches of the British Medical Association.

Several other letters having been read, the President communicated the contents of an interesting letter which he had lately received from Dr. Maunsel, of Dublin; as, however, the writer intimated a desire that his plans should not be made public until they had been thoroughly matured, we abstain from any notice of them. Dr. Webster also directed attention to an opening lecture of Mr. Jacob, which contained very liberal sentiments.*

A Committee was appointed for the purpose of preparing a new edition of the laws of the Association, and it was determined that copies of Dr. Granville's Oration on Medical Reform should be forwarded to the libraries of the College of Physicians, College of Surgeons, and other medical libraries of the metropolis.

WESTMINSTER MEDICAL SOCIETY.

Saturday, Nov. 10, 1838.

Mr. Hale Thomson, President.

PERICARDITIS.—OSSIFICATION OF THE AORTIC VALVES IN YOUNG SUBJECTS.—SINGULAR CASES OF LOSS OF SPEECH.

Mr. W. Pettigrew inquired, what was the earliest period of life at which members had observed the ossification of the valves of the heart? He had lately been at the Glasgow Infirmary, where he had heard Dr. Cowan give a lecture on a case in which there was ossification of the aortic valves. He had paid so little attention to the substance of Dr. Cowan's discourse that he remembered nothing of the history, or of the symptoms, which were observed in the case, with the exception that the patient, nineteen years of age, had suffered from rheumatism at the age of thirteen, and that there was at that period metastasis to the heart; she had suffered, for two or three years, under symptoms of heart disease. After death much fluid was found in the pericardium; patches of lymph were deposited on the surface of the heart, which was large and flaccid; the valves of the aorta were ossified; fluid was found in the chest and abdomen. He had never heard of an instance of ossification occurring so early in life.

Dr. Williams had seen two or three cases in which ossific, or rather calcareous, deposits (which he believed was generally their nature) were found in the aortic valves in subjects as young as Dr. Cowan's patient; his patient had suffered from rheumatism.

Dr. G. Bird had found that the deposits on the aortic valves, when the lining membrane was very carefully scraped away, dissolved in strong acid entirely, proving the correctness of Dr. Williams's opinion as to their *nature*. He (Dr. B.) had lately met with a case bearing something on the subject under discussion. A very delicate boy, fourteen years old, came ten days since to the dispensary to which he (Dr. B.) was attached, suffering from acute rheumatism,

* On looking over this precious document we find that it is a *radical* address by Professor Arthur, which had found its way, by mistake, we suppose, into "the *Protestant* Guardian." *Fas est et ab hoste.*—Ed. L.

and was treated by a colleague of his for that disease, and appeared to get better. Yesterday week he seemed going on very well; at four o'clock in the afternoon he got up to tea, when he said, all at once, that he was entirely free from pain, and, indeed, felt quite well. At 11, P.M., Dr. B. was sent for, in a hurry, to see him; he found him lying across the pillow; his face was livid, and expressive of great agony; the heart's action was tumultuous; in fact, he had all the symptoms of very acute pericarditis. It appeared that he had been totally free from pain for two or three hours, and that the alarming symptoms came on suddenly; there was no reason to suspect the heart was previously affected. He considered the very sudden nature of the attack, recollecting the entire immunity from pain for several hours, was curious.

Dr. J. JOHNSON considered, that in rheumatism, where there was a sudden cessation of acute pain, it was three to one that the heart, stomach, or lungs, would become violently inflamed; the more complete the cessation of the pain, the more dangerous was the case.

Dr. WILLIAMS did not see the intimate relation between the sudden cessation of pain and the occurrence of cardiac disease. He believed, however, that in four cases out of five, of rheumatism, the heart was affected, and often when not a single symptom was referred to the chest; and this might occur, too, when the pain in the joints was relieved. He had, however, on the other hand, seen cases of rheumatism treated actively, as by bleeding in the early stage, in which there was not only complete cessation of the pain, but not the slightest physical sign of heart disease. The case of Dr. Bird was curious, as showing the very sudden nature of an attack of pericarditis; but he considered disease of the heart had before existed, and might have been detected by the stethoscope.

Dr. JOHNSON inquired, what Dr. Williams thought where the diseases of the heart, concomitant with acute rheumatism, affecting four persons out of five?

Dr. WILLIAMS—Endocarditis or pericarditis.

Dr. JOHNSON—Then rheumatism was a more serious disease than he had imagined. He had seen very many cases in which he had thought the patients were entirely free from disease of the heart.

Dr. WILLIAMS said, that either rheumatism was more serious than generally thought, or endocarditis, or pericarditis, fearful sounding names, were less important than usually believed. His experience went to show that either of these diseases might go on for a long period without producing much inconvenience; they might affect only a very small portion of the membranes which did not influence the heart's action, and no permanent evil resulted.

Mr. SNOW had observed that the pain in cases of rheumatism was relieved, as if by magic, under the use of colchicum; the sudden relief he considered rather desirable than dangerous.

Dr. J. JOHNSON deprecated free bloodletting, and the use of the warm bath in acute rheumatism, the sudden disappearance of the pain and swelling being likely to induce metastasis.

CASES OF LOSS OF SPEECH.

A MEMBER wished to inquire of the President (Mr. Hale Thomson), as one of the surgeons of the Westminster Hospital, the particulars of the case of aphonia, occurring in a policeman, who was said to have been carried to that institution. He had a patient under his care, an old woman, whom he believed, most decidedly, was not an impostor, who had lost all power of speech, with the exception of the expression of the single monosyllable "Yes." She could use her tongue well, and had the perfect sense of taste. She eventually recovered her speech.

The PRESIDENT, in reply, stated, that he had not then in his possession any notes of the case, but, as he had seen the patient alluded to during his stay in the hospital, he believed he could furnish the Society with all the particulars that had transpired. A policeman in the B division of the Westminster force, while on duty, found himself, about four o'clock on Tuesday morning, the 30th of October, suddenly deprived of speech. He had been conversing with the serjeant of his beat a few minutes previously, and was not then indisposed. He states, that between three and four years ago, while in Paris, he laboured under a similar affection, for which he was admitted into the Hôtel Dieu, and, after remaining there for ten or twelve days, his speech suddenly returned. As far as he recollects of the treatment then pursued, it was of a stomachic and stimulating nature, but his account of it is, of course, imperfect. On his admission to the Westminster Hospital, on the morning of Tuesday, he evinced no other signs of indisposition than the entire deprivation of the powers of speech. He readily replied to any questions put to him by writing on a slate which he carried in his pocket, and when pressed to make an effort to speak he merely made a noise very similar to that of a dumb person. He did not appear to have lost the motion of the tongue or lips, and the making an effort to speak did not seem to occasion any uneasiness. He stated that he was of an extremely costive habit, and his bowels were then in a very confined state. He was ordered to take a dose of the compound jalap powder immediately, and this was repeated four or five times. On the Wednesday, as the

bowels had not been acted upon, salts and senna were given, which did not operate till Thursday night. At four o'clock on Friday morning his speech suddenly returned, and he continued well up to the time of his leaving the hospital, which was within a week of his admission. He immediately returned to his duty, which he now performs as usual. There does not appear any ostensible reason why the man should have practised any deception on this occasion.

Dr. J. Johnson believed that if a person had the power of moving the tongue, and the voice was present, he must be an impostor if he did not speak. This was the case, he believed, with the man in Westminster Hospital. He had seen loss of speech in many cases from disease. When in the Navy, the captain of the vessel to which he was attached, suddenly lost the power of speech, just as they were going into action. He took him (Dr. J.) into the cabin, and he wrote upon a slate "Mr. Johnson, I cannot utter one word." He had a very imperfect power over the motion of his tongue; he was on the verge of apoplexy; bleeding was instantly resorted to, and in two hours he recovered his speech.

The Inquirer believed his patient was not an impostor, there was no motive to deceive; she lost her voice again, and died; no symptoms of apoplexy were present.

Dr. Johnson believed her to be an impostor. O'Key made many people fools until her trickery was detected by Mr. Wakley.

Mr. C. Crowne related a case of a lady with hysteric aphonia, who, though in speaking could never reach beyond a whisper, nevertheless sung delightfully.

MEDICAL SOCIETY OF LONDON

Monday, Nov. 12, 1838.

Mr. Bryant, President.

SINGULAR BIRTH.—ANOMALOUS PAINS.

No further particulars of the case of twins alluded to by Mr. Headland last week were furnished. The points of interest in the case were as follows:—One of the children was of the full size, the other scarcely less, and the head hydrocephalic; the hydrocephalic head was first born, the other child presented by the shoulder, and was in that position delivered; the second child breathed two or three times; there was but one funis, which went to the bellies of both children, who were attached by an integumental kind of substance, extending from the upper part of the sternum to the umbilicus; there were two hearts inclosed in one pericardium. Mr. Headland was unable to give any further account of the case, which was attended by a midwife, and the children were removed by some other medical man, who did not seem inclined to allow them to be exhibited to the Society; they are now in the Museum of St. Bartholomew's Hospital.

ANOMALOUS PAINS.

Mr. Linacre had a patient at present under his care with symptoms, the cause of which he was unable to explain; the patient was about fifty. Many months since he suffered from rheumatic gout in his fingers and toes, from which he was relieved, and continued well to three weeks since, when he came under his (Mr. L.'s) care for a slight febrile attack; this was treated and the patient got perfectly well, with the exception of a peculiar symptom which harrassed him exceedingly, but which seemed to depend entirely on the position of his body. When sitting with his feet raised he was entirely free from pain, but the moment he stood erect he suffered excruciating agony in the heels; when in the recumbent position the heels were free, and the pain attacked the back, extending from the lumbar region to the scapula. Colchicum, opiates, and various remedies employed, had not been of the slightest service. Twelve years since he had suffered from a similar affection, which lasted for six months, and then seemed to have worn itself out, as it resisted all kinds of treatment. In the present attack a slight blenorrhagic discharge was present at the commencement of the febrile attack, but this ceased as the fever subsided. There was not the slightest suspicion of gonorrhœa. The pains were neither periodic nor spasmodic, and seemed to depend entirely on the position of the body.

A conversation followed on gonorrhœal rheumatism and its consequences.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, November 13*th*, 1838.

Dr. Bright, President.

This was the Society's first meeting this session; the library was crowded at a very early hour, and many members and visitors who arrived late, being unable to obtain sitting room, were obliged to go away. The rooms of the Society have been freshly painted and decorated, and in place of the dull, uneven, and troublesome oil-lights of former years, there are now handsome gas-lights.

The President, on taking the chair, congratulated the members on the auspicious circumstances under which they met; and alluded to the various improvements made in the Society's rooms. A new lease of the premises had been obtained on advantage-

ous terms, which would effect a saving of 30*l.* per annum. Another volume of "Transactions" had lately been published, and the booksellers had found that a reprint of the old volumes had been called for. He hoped the new light under which they met would be typical of their proceedings, which, he trusted, might throw good and sound light on the profession.

CASES OF SPASMODIC DISEASES, ACCOMPANYING AFFECTIONS OF THE PERICARDIUM.

By RICHARD BRIGHT, *M.D., F.R.S.*

The object of the paper was to illustrate, by recent original cases, certain rare and important complications of cardiac disease, viz., different forms of nervous irritation supervening upon pericarditis. The principal facts adduced by the author were comprised in the histories and post-mortem appearances of three remarkable cases, each of which presented peculiar nervous symptoms, to which for the most part might, the author conceived, be attributed the fatal terminations. In all the cases the nervous symptoms were spasmodic, being, in one, those of chorea; in a second, of trismus and epilepsy; and, in a third, of hysteria. The first case was that of a young man, of 17, labouring under articular rheumatism, in whom, after some apparent amendment, peculiar spasmodic symptoms, supervened, resembling accurately in everything, except undue violence, the spasm of chorea; these were soon followed by general convulsions after some days of apparent improvement, to which delirium, requiring the straitwaistcoat, was soon added; he died about the sixteenth day after the commencement of the spasmodic symptoms. The post-mortem appearances were those exclusively of heart disease, viz., adhesion of the pericardium to the heart, with appearances about the valves of the left side that might be referred to endocarditis in some measure. The second case was that of a gentleman, who, after exposure to cold, was attacked with articular rheumatism, and symptoms indicating rheumatic inflammation of the diaphragm and pericardium, probably, also. To these symptoms, about the seventh day, were added difficulty of lying down, of breathing, and of swallowing; and, on the ninth day of his illness, the dysphagia amounted to trismus, and was accompanied by some opisthotonos; there were also some indications of pleuro-pneumonia in the left lung. Epileptic convulsions soon supervened, and he sunk. The post-mortem appearances were principally pleurisy in either side, with traces of intense pericardial inflammation along the course of the phrenic nerve; lymph on the diaphragm, and a circumscribed pleuritic effusion in the lower angle of the left chest. After relating the particulars of these two cases, the author offered some observations and comments on them, pointing out particularly the probable sinister influence of the trismus, by preventing, in the second case, the administration of medicine, and of the occurrence of the intense pericarditic inflammation in the course of the phrenic nerve, in the same case, as accounting for the nervous symptoms; insisting, likewise, on the value of mercury with opium and antimony, in the treatment of such cases; and then referring to the literary history of the subject for the purpose of showing that little attention had been paid to the fact of the occasional connection of spasmodic symptoms with acute cardiac disease. In the course of the author's comments, short summary histories were given of five or six other cases, in which he had observed chorea in connection with, and apparently rising out of, pericarditic inflammation, all of which recovered under remedies directed against the pericarditis. The author then related his third case, authenticated by post-mortem particulars, being a case of hysteria connected with pericarditis. It was the case of a young lady, of a phthisical family, and labouring under diffused glandular disease, but no strictly consumptive symptoms, who was at length attacked with dyspnœa in paroxysms, accompanied by shaking, and apparently convulsive action of the diaphragm that threatened instant death, and resembled an aggravated form of hysteric convulsions; at the same time symptoms of omental tuberculation, and other abdominal disease, were observable, and she sunk in about six weeks. The principal morbid appearances were as follows:—The heart and pericardium were firmly adherent, in one mass, to the sternum. The heart itself and its covering were glued together by yellow matter, a quarter of an inch in thickness. On the right side the phrenic nerve was involved in the diseased structure. The lymphatic glands were generally diseased, containing yellow deposit, as did also, partially, the surface of the right lung. The author illustrated this case by some observations, for the purpose of showing that the distressing symptoms were probably owing to the disease of the heart and pericardium, and concluded his paper by stating, that he had since had another case of apparently the same pathological conditions, which, however, having been prevented from post-mortem examination, he abstained from detailing.

Dr. COPLAND inquired whether the spine had been examined in either of the two first cases recorded.

Dr. BRIGHT said the spine was examined in neither case. In the first case a portion of the brain was carefully looked to, but no disease detected. Indeed, enough was found to account for the symptoms, without examining further than the thoracic viscera.

Dr. COPLAND replied, that in the case he had related in the "Medical Repository,"

and which Dr. Bright had referred to as bearing out his opinion, there was lesion of the spinal chord, and he (Dr. C.) had looked upon this as the *cause* of the chorea. The pericarditis which was present he considered merely as a *complication*. He did not, however, look upon effusion in the spinal chord, as invariably productive of chorea, but only as an occasional cause. He could not take the same view as the President with regard to his opinion that chorea was produced by pericarditis. It was, however, a frequent complication, as he had had many opportunities of knowing since the publication of the case alluded to. The fact, then, of the frequent complication of inflammation of the pericardium with chorea, was in itself one of the greatest interest.

Dr. J. Johnson considered that independent of the connection which the paper read had alluded to, between spasmodic affection and heart disease, the cases related were particularly interesting, as drawing the attention of the profession still more firmly to the connection which existed between rheumatism and pericarditis and endocarditis. Some eminent pathologists had gone so far as to say that the latter diseases were almost always concomitant with rheumatic affections of the joints. The two first cases related would tend to favour this opinion, inasmuch as the rheumatism was of short duration, and the pericarditis must have been of some days duration, commencing nearly as soon as the rheumatism. The cases detailed showed how necessary was a careful examination of the heart in rheumatic affections of the joints. He was inclined to the opinion, that pericarditis as connected with rheumatism usually occurred as a metastasis from the joints, and not as a concomitant of the articular disease. He could not bring himself to the conclusion that pericarditis was a cause of chorea, and he feared that the authority of Dr. Bright's name for such an opinion, would lead many young practitioners to adopt much too active treatment in the latter affection. He could not believe that there was a general connection between the two diseases last named, recollecting the kind of individuals chorea usually attacked, as well as the means of treatment, leaving out the cathartics of Hamilton, which were generally successful; such as the salts of steel and other powerful tonics. On the other hand, no practitioner of any standing could have failed to remark the remarkable nervous symptoms which were frequently present in pericarditis. He remembered one instance in which the affection absolutely resembled delirium tremens.

Dr. Bright said he should be sorry if it was supposed that he meant to say pericarditis was a usual cause of chorea; he meant only that it was an occasional cause.

Mr. Mayo related a case of a child who was some months since in the Middlesex Hospital with an indolent ulcer of the leg; this healed and rheumatism attacked several of the joints; this gave way, pericarditis supervened, and, on recovery from this, chorea occurred. He did not, in this case, associate the chorea with the rheumatic affection, but merely considered it as dependent on the debility produced by the treatment which had necessarily been employed.

Dr. Elliotson was quite sure that there was an occasional connection between rheumatism and chorea. He had attended a young lady at Clapham, in two attacks of acute rheumatism, and after each of these most violent chorea came on. He had, since then, occasionally met with cases of a similar kind. In no instance, however, which had come under his observation, could the presence of pericarditis be in the slightest degree detected.

CASE OF MALIGNANT DISEASE OCCUPYING ONE HALF OF THE TONGUE, TREATED BY LIGATURE APPLIED FROM BENEATH THE JAW.

By J. M. Arnott, *Surgeon to the Middlesex Hospital.*

A young woman, aged 15, had a tumour, the size of an egg, occupying the right half of the tongue, and encroaching upon the base under the arch of the palate; it was firm and solid, of a purple colour, with a warty surface on some parts, a vesicular on others; a small blue swelling had existed, and remained stationary on the part for nine years, but within the preceding three months had began to enlarge, and had increased rapidly to its present formidable character. Various external applications and internal remedies had been tried without avail; the diseased mass could not have been included by ligature passed in the ordinary way through the mouth; an incision was made in the mesial line of the neck immediately above the os hyoides; a double ligature was carried through the base of the tongue into the pharynx; one of these made to encircle the right half of the part behind the tumour; the other, disposed longitudinally, was to circumscribe it laterally, and the four ends of the two ligatures coming out at the wound in the neck, were then tied as tightly as possible; strangulation seemed effective, and portions of the tumour began to separate; but, at the end of five days, it was discovered that the sloughing was confined to the surface, and the bulk of the tumour was still alive. A loop of wire was now passed through the mouth, and over the diseased half of the tongue, into the deep trench by which this was separated from the sound parts longitudinally and posteriorly, and this being tightened under the former, all vascular supply was cut off from below, and the part completely strangulated. No dangerous symptoms attended the operation; the ulcerated surfaces left

by the separation of the diseased mass healed kindly, and now, five months subsequently, there is no appearance of a recurrence of disease. The patient's deglutition is perfect, and she speaks most intelligibly, with merely a lisp. The author referred to a fatal case of this operation for cancer of the tongue, by M. Jules Cloquet, and to another by M. Mivault, where ligatures were applied across the base only of the organ, were not followed by sloughing of the part, but where so much benefit resulted from the diminution of the supply of blood, that the disease disappeared and the patient preserved her tongue.

Mr. Lloyd recollected a case which occurred to him eighteen years since. A lady, thirty years of age, had a tumour in the centre of the tongue, which the late Mr. Cline considered malignant. He (Mr. L.), however, at the earnest solicitation of the patient, undertook to remove it, and effected this by freely rubbing the potassa fusa all round the sound parts encircling the tumour; this was repeated on two or three occasions, and sloughing was produced, and the tumour came away entire, leaving only a large gutter in the tongue. There had never since been the recurrence of the slightest disease. During the time the growth was coming away, there was considerable bleeding, but this was checked by the free use of the nitrate of silver.

PERSHORE UNION AND WORCESTER INFIRMARY.

"I say it advisedly, that in many places the paupers require to be protected against their *guardians* and their *doctors*."—*Mr. Cesly's letter in* The Lancet.

A pauper belonging to the Pershore Union was brought into the Worcester Infirmary, *in articulo mortis*, labouring under strangulated hernia. The gut had been down twenty-four hours. The medical man attending the Union had seen him on Wednesday, and employed the taxis for four hours, without intermission, "until the scrotum was as black as your hat," and the integuments entirely destroyed. *Emetic tartar* was administered, and he was not sent into the Infirmary until *Friday*. His very dangerous position was pointed out to him, and the poor fellow implored to have the operation performed: it was performed by Mr. Sheppard. The ring was large enough to admit *two fingers*, the gut *perfectly dead*; the patient soon sank, and passed "to that bourne whence no traveller returns."

At a meeting of the Board of Guardians on Tuesday, Mr. Martin rose and observed, that rumours had got into circulation respecting the death of Thomas Atwood, saying that he lost his life in consequence of carelessness and inhumanity, and that they had originated in the Worcester Infirmary; he, therefore, should propose that the clerk to the Board do write to the house-surgeon of the Infirmary, requesting to know whether such was the case, and, if so, whether they could justify such scandalous behaviour. Mr. Annesley, the temporary Chairman of the Board, stated that he was going to Worcester on Saturday, and should fully inquire into the subject. On these conditions Mr. Martin consented to withdraw his motion. On the following Tuesday Mr. Annesley said that he had been to Worcester, and had seen individuals belonging to the Infirmary, and they had expressed their opinions, in unmeasured terms, regarding this circumstance; therefore he was satisfied that no good could possibly arise from any inquiry; consequently, as the best mode of keeping the thing quiet, he should propose a vote of thanks to the parties implicated, as he never would consent to any inquiry when he saw a chance of his *friends* being censured, which vote of thanks was carried!

*** We publish the foregoing from the manuscript of a correspondent, who has forwarded with it his name and address, but the statement is not so clearly made, nor so plain in intention, as it should have been. The obscurity partly arises from the uncertain relation of the word *they* (ascribed to Mr. Martin) to the terms "carelessness and inhumanity;" and partly from the uncertain application of the words "this circumstance," employed by the "individuals belonging to the Infirmary." We have no clue in the document to the real authors of the alleged "carelessness and inhumanity." Perhaps Mr. Pierepont, the able surgeon of the Infirmary, will make known the particulars of a case, which must have fallen in some shape under his notice.

SUGAR IN THE BLOOD.

The question of the presence of sugar in the blood of diabetic persons has long been a matter of dispute amongst chemists. It appears certain, however, that Ambrosiani extracted saccharine matter in a state of purity from the serum of diabetic blood, while recent experiments of Mr. M'Grigor lead to the idea that it exists in several of the excretions also. The following process is described by Dr. G. O. Rees, in the last number of "Guy's Hospital Reports":—

"The mass of blood is to be evaporated to dryness, over a water-bath; the dried mass to be comminuted, and digested for several hours in boiling water: the aqueous solution is to be filtered off, evaporated to dryness, and the dried residuum digested in

alcohol of sp. gr. 0.825 : the alcoholic solution so formed is to be filtered, or carefully poured off, evaporated to dryness, and the dry mass treated several times with rectified ether, which dissolves out urea, and also some fatty matter; leaving behind the sugar, in admixture with osmazome and chloride of sodium: this mass, on being dissolved in alcohol, and the solution allowed to evaporate spontaneously in a flat glass dish, affords mixed crystals of alkaline chloride and diabetic sugar; which are easily distinguishable from each other, and allow of being separated mechanically, by shaking them up in alcohol, when the chloride sinks; and the sugar, being principally collected above, may be removed, for examination, by careful use of the spatula: the alcohol must not, of course, be allowed to remain long in contact with the crystals, as it would re-dissolve them. It is a matter of surprise, that sugar has not been long ago detected in the blood of diabetic patients, though not separated from it; for the alcoholic extract of the serum, when mixed with water, will, after a few days, give off carbonic acid; which, in addition to the sweetish taste, and syrupy smell of the evaporated alcoholic extract, is a sufficient evidence of the presence of sugar. The following is an analysis of 1000 grains of diabetic serum :—

Water	908.50
Albumen (yielding traces of phosphate of lime and oxide of iron, on incineration)	80.35
Fatty matters	0.95
Diabetic sugar	1.80
Animal extractive, soluble in alcohol, urea	2.20
Albuminate of soda	0.80
Alkaline chloride, with traces of phosphate	4.40
Alkaline carbonate, and trace of sulphate, the results of incineration	
Loss	1.00
	1000.00

It will be observed, on comparing this analysis with that of the serum of healthy blood, that we have here a great excess of matters soluble in alcohol, while the albuminate of soda is rather less than in health. The alkaline salts are also in very small proportion, being only 4.40 gr. in 1000 grains of serum, while in health they amount to from 7 to 8 grains per 1000.

MEDICAL WORKS PUBLISHED IN PARTS.

The complaints which are made to us of irregularity in the publication of the majority of these works are so frequent that it will evidently be almost impossible, ere long, to obtain subscribers to any new volume which is offered in parts. The following (furnished by a correspondent) is a sample of the manner in which the public are treated in the production of such works. Both editors and publishers must laugh at the ridiculous appearance which the announcements present when assembled together. The injustice to the public they have long since felt, if we are to believe the endless assurances and expressions of regret which preface every advertisement that is put forth with a fresh part.

The first prospectus of a work which is now publishing stated that it would appear in *four* parts, and be completed in a *few months*. This was in 1832. Part 2 was announced for January, 1833, but it did not appear *until* 1834, and on its cover was a notice stating that Part 3 would be published *early in the same year*. That part, however, did not come forth until *the middle of* 1835, and with it was a notification that the number of parts would be *increased to six*, and that Part 4 was in the press, and would be published *shortly*. In *April*, 1837, Part 4 appeared; Part 5 was advertised to be issued in the December following, and Part 6 was promised in a few months afterwards. But instead of fulfilling this new engagement a *half*-part made its appearance in *July*, 1838, and with it came another promise, viz., that certain *half*-parts should make their appearance every three months. That this last declaration has not been fulfilled we need hardly add, and the scheme of "*half*-parts" indicates a desire to make the work a kind of "quarterly," protracted in numbers as much as possible, each part being employed as a medium for twenty or thirty pages of profitable advertisements. The half-parts may soon become quarter-parts, for while Part 1 contained 336 pages, exclusive of certain formulæ, Part 2, 303, Part 3, 319, and Part 4, 303, the half-part which came out in July contained only 143. Other contrivances failing, this ingenious diminution of the pages may materially help to increase the number of parts and advertisements. Not the worst of the joke thus played on the much-enduring public is, that the prospectus issued with each part has uniformly stated that the entire work will be completed in the course of a *few months!*

TO CORRESPONDENTS.

Chirurgus has been received.

A. B. C. Whether the practitioner in question will really "disgrace" himself, remains to be seen. The fraud has been fully and completely exposed. If it be further practised, all parties must take the consequences. They shall not be spared in this quarter, whatever may be claims of some of them, in other respects, to our confidence and esteem. A more shameful and disgusting exhibition was never witnessed.